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OVERSIGHT OF THE FEDERAL-AID HIGHWAY PROGRAM

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES, TRANSPORTATION, AND INFRASTRUCTURE

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

JULY 10, 1990—ST. PAUL, MINNESOTA

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OVERSIGHT OF THE FEDERAL-AID HIGHWAY PROGRAM

TUESDAY, JULY 10, 1990

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER RESOURCES, TRANSPORTATION,
AND INFRASTRUCTURE,
St. Paul, MN.

The subcommittee met, pursuant to notice, at 9:41 a.m., in room 15, Minnesota State Capitol, St. Paul, Minnesota, Hon. David Durenberger (acting chairman of the subcommittee) presiding.

Present: Senators Durenberger and Symms.

OPENING STATEMENT OF HON. STEVE SYMMS, U.S. SENATOR FROM THE STATE OF IDAHO

Senator SYMMS [assuming chair]. Good morning. My name is Senator Steve Symms from the State of Idaho, and I am very happy to call to order the Subcommittee on Water Resources, Transportation, and Infrastructure of the Senate Committee on Environment and Public Works for this hearing today.

Before I make my opening remarks I would like to ask unanimous consent to insert in the record a statement on behalf of the chairman of our committee, Senator Quentin Burdick, of neighboring North Dakota. I talked to Senator Burdick personally, and he regrets that he's not here this morning with his friend, Senator Durenberger, and the rest of the committee. He feels that he has very close ties to your great State in view of the fact that—I think many people here know—he was the blocking back and the quarterback for the University of Minnesota for Bronco Nagurski, and that's why he became such a great football star.

But the Chairman is required to be in Washington today preparing for the Clean Air Act conference, so he couldn't be here, but he sends his best wishes to Senator Durenberger. So I ask unanimous consent to put his statement in the record at the start of the hearing.

[Senator Burdick's statement follows:]

STATEMENT OF HON. QUENTIN N. BURDICK, U.S. SENATOR FROM THE STATE OF NORTH DAKOTA

I applaud Senator Durenberger for calling this hearing. It is an important step forward in our examination of transportation priorities for the future and our exploration of the critical issues that must be addressed in the next highway bill.

I regret that other commitments prevent my joining Senator Symms and Senator Durenberger this morning to discuss these important transportation issues. Be as-

sured that the testimony presented today will be carefully examined as we work to reauthorize the Federal-aid Highway Program. I am especially concerned that the next highway bill achieve the proper balance between the needs of rural and urban areas.

The future of our national economy and our quality of life depends on a strong transportation system. Picture the Twin Cities without I-94 or other federal highways. Then picture state officials here in Minnesota or in North Dakota grappling with the problem of crumbling roads and unsafe bridges. Without federal aid, most states could not afford to pay for needed road improvements. Some roads might have to close.

Several recent reports indicate that States with large geographic areas and economies based primarily on agriculture are particularly hard hit by inadequate roads and bridges. Highways are a crucial component of the transportation network for moving agricultural products from farm to market. Without good roads and bridges, many rural residents in North Dakota and Minnesota would be cut off from health care and other important services.

Rural America has been adversely impacted by the loss of rail lines and reduced air and bus service. Farmers and rural residents are more dependent on trucks and cars. As a result, increased traffic volume, larger vehicles and heavier loads add to the deterioration of our roads and raise serious safety concerns.

A report by the Department of Agriculture entitled "Reconnecting Rural America" finds that the transportation services available in rural areas are not used effectively because they are not part of an overall, integrated transportation system. Intermodal transportation solutions will result in reduced handling and faster delivery of all the products vital to our national economy as well as increased personal mobility for all Americans. Our goal is a national transportation system that integrates the full capabilities of planes, trains, automobiles, trucks and ships to best effect. As the Senate Environment and Public Works Committee starts work on reauthorizing the Federal-aid highway program, I am committed to meeting our nation's needs for an efficient and effective transportation system.

Thank you.

Senator SYMMS. I also have a letter from Governor Perpich to Senator Durenberger, and I ask unanimous consent that that be inserted in the record at the appropriate place.

[The letter referred to follows:]

STATE OF MINNESOTA
OFFICE OF THE GOVERNOR
ST. PAUL 55155

RUDY PERPICH
GOVERNOR

July 10, 1990

The Honorable Dave Durenberger
Subcommittee on Water Resources,
Transportation and Infrastructure
United States Senate
Washington, D.C. 20510

Dear Senator Durenberger:

I am pleased that you have brought the Subcommittee to Minnesota so that it may hear the Minnesota perspective on the reauthorization of the highway bill.

As you know, Minnesota's total road system is the fifth largest nationally and is the largest in our region. But because we have one of the smallest population densities in the nation, Minnesota's roads must serve people over a larger area than in many other states. A good highway transportation system is vital to Minnesota's economic growth and I will be following the reauthorization of the highway bill very closely.

I regret that previous commitments prevent me from testifying before the Subcommittee this morning, but I understand that Leonard Levine, my Transportation Commissioner, will present testimony on behalf of the State. Again, I appreciate your bringing the Subcommittee to Minnesota and I hope that these hearings will offer to the Members of the Subcommittee a better understanding of the transportation needs of our State.

Sincerely,

Rudy Perpich

RUDY PERPICH
Governor

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Ladies and gentlemen, I am delighted to be here today at the invitation of my friend, Dave Durenberger, and to have this hearing of the Subcommittee on Water Resources, Transportation, and Infrastructure in your State to hear your perspective as we begin to work on reauthorization of the Federal-Aid Highway Program.

Dave Durenberger and I have worked for a long time on highway programs in my 10 years in the Senate, and he's been on this committee all of that time. We've gone through the 1982 highway bill, the 1986 bill which did not become law, the 1987 bill which became law after a great deal of blood was let, but I do believe it has been a good program. And now, as we come to the end of the completion of the Interstate Defense Highway System, we must start getting input from people like yourselves around the country for which way we are to go with the Federal-Aid Highway Program.

I again want to thank Senator Burdick, chairman of the committee; Senator Moynihan, chairman of the Water Resources, Transportation, and Infrastructure Subcommittee; and Senator Chafee, the ranking Republican member of the Environment and Public Works Committee for agreeing to hold this hearing.

The subcommittee has held several hearings around the country during the last year to hear from people at the State and local levels who implement the highway program and who make it work. The information we have gathered has been very helpful and is particularly important because we have now reached a crossroads. As I stated, the largest highway project ever undertaken, and probably one of the largest public works projects ever undertaken anywhere in the world—the National System of Interstate and Defense Highways—will be successfully completed in the next few years.

Now we have to make important decisions about the country's highway programs and what direction it will take in the future and what will actually be in the next highway bill. Your expertise and involvement with transportation issues will be helpful to us. Those of you here today know how important a good transportation system is to the country, not just for mobility, but also for the economy and our ability to be competitive in world markets.

During the next year, as the Congress considers legislation to reauthorize the Federal Highway Program, this message has to be brought to the attention of the public, the Congress, and private sector. Many economists have shown that increasing our investment and highway capital needs not only has a short term effect of a better road system, but also a significant long term positive effect on our Nation's economy. According to their analysis, such an investment would improve labor productivity, corporate profits and private investment.

With the interstate system completed, there is still plenty of work to be done. First, the interstate system must be maintained. Second, there are many other non-interstate highways and bridges that need attention. These projects had to be delayed in order to complete the interstate system. Regions without interstate segments have also had to wait to have their needs addressed. Now it's their turn, and they deserve our attention.

To address these backlogged needs, I believe it is time to permit the State to spend the balance that has accumulated in the highway trust fund. These user fees that have been building up in that

trust fund were paid by highway users for the purpose of improving our highways and can be spent only for that purpose. It is time we do so. I will be introducing legislation soon that will provide a $15 billion obligation ceiling for the highway program so that this balance can be spent down gradually by the States.

The witnesses who will be testifying today have been asked to address a number of issues, including the impact of Federal transportation policy under the State and local governments, the impact of the Federal transportation policy on the transportation system users and consumers, the importance of a national transportation system to the United States in general, and Minnesota specifically, and innovations in the area of better management and research and development that can help meet transportation's needs.

Again, I want to say it's a privilege for me to have the opportunity to be here today—it's a beautiful city, a beautiful State—and to be here with Dave Durenberger, whom I have worked with very closely and whom I appreciate very much as a valued member of this subcommittee. So I look forward to hearing from the witnesses and welcome Mr. Wood, from Federal Highway Administration, to the committee.

The floor is yours, Senator.

OPENING STATEMENT OF HON. DAVE DURENBERGER, U.S. SENATOR FROM THE STATE OF MINNESOTA

Senator DURENBERGER. Thanks, Steve.

I will begin my opening statement by thanking the Senator from Idaho. Steve was the former subcommittee chair during the tough days, and in 1987, after he became the ranking member, he and I and a couple of others had a little brow-raisings on this transportation system that is pretty important.

I want to thank Quentin Burdick, our full committee chair, for making possible a good part of the Environment and Public Works Committee staff being here; David Strauss, the staff director, made quite a difference, as did three or four others. Members of the staff of the Environment and Public Works Committee, and specifically those who concentrate on Public Works issues, are here as well.

I want to acknowledge and to express appreciation for Lionel Wood, the Acting Regional Administrator, coming out from Chicago today, and we have Commissioner Levine and his staff, and the leaders of major transportation interest groups and those noted for their help in publicizing today's hearing. Commissioner Levine had set up a briefing for several of us this morning on the Guide Star system in the Minneapolis Management Center. That briefing makes much more graphic some of the testimony we will be hearing in a few moments, but it showed us that Minnesota is on the cutting edge of transportation management technology, and also it personally gave me a feeling that we are getting a lot of value as we go through that system and see what it is that we are buying, in essence, for our dollars.

This is, as Steve indicated, one of a series of hearings that he and I have been involved in and will be involved in during the course of the summer and fall with members of the Environment and Public Works Subcommittee on Water Resources, Transportation, and In-

frastructure. We are preparing a reauthorization of the Federal Highway Act. The authority for a lot of the Nation's highway systems expires on September 30 of this year, but I think the timing of this hearing has additional significance. One of the main things we are going to be spending our time on in the next couple of months is the so-called budget cuts. You can count on all of the revenues of the Highway Trust Fund, and I am sure you can count on the source of those revenues being part of the budget.

I hope that during the course of the day today we will be making a case for not balancing the Federal budget on the backs of highway users or on the backs of fuel taxes. I would guess that would be the proffer of the testimony, but, again, a good reason for having this hearing at this particular time.

We have asked the witnesses in this constructive hearing to talk not about highways, but to talk about transportation policies, in effect making a case for the fact it's not just asphalt and concrete, but these really are the folks that are making a contribution to the quality of life, to the welfare of the country, and to international competitiveness. We have asked our witnesses to think about the intergovernmental implications of transportation financing, not just about how much money, but where is the authority to spend it going to come from?

We are also asking our witnesses to help Congress better understand how transportation policies affect the potential for creating jobs in economic development, particularly in rural areas and rural States like Steve and I represent; to discuss how Federal policies on other modes of transportation — rail, air, water, transit—affect the demands placed on our highway system; and to help us understand how better management of existing roadways, new technology, and incentives for drivers to ride can all help meet growing demands for increased capacity, especially in urban areas like the Twin Cities.

We're fortunate that we've come to a place where all these issues are already under active discussion, not only among the so-called experts, but among policy-makers and the general public. And we're fortunate that over the course of this morning's hearing we will hear testimony from many of the Minnesotans who are helping to lead that discussion, not only here, but nationally as well.

During my first eight years in the Senate, I had the privilege of serving on the Subcommittee on Intergovernmental Relations, so I have a special interest in the testimony offered by our first two panels this morning on what role the national Government should play in setting transportation policy and the impact of national transportation policy on States and local units of government. That's an important issue for our major urban areas like the Twin Cities, but it's even more crucial for thousands of rural communities all across America—communities that were creations of an earlier national commitment to rail transportation and whose future may now depend on which highways get upgraded and on who pays the bills.

A second personal interest I bring to the debate over transportation policy involves its increasing ties to national environmental policy, the other half of this committee on which Steve and I serve. No transportation decision can be made today without regard to its

impact on the environment. Wetlands, groundwater, air quality, even noise, are all environmental concerns that transportation policy-makers must face with each decision they make.

And, finally, as a member of the Senate Finance Committee, I see a blurring of lines between public and private ownership and financing of transportation facilities. We're seeing it first with toll roads and bridges. We may see it next in a return of privately owned public transit and new initiatives in high-speed rail. There are major implications in that blurring of lines for Federal tax policy, for access to tax-exempt bonds, for flexibility in mixing and linking public and private financing of highway, rail and transit projects. I'm hopeful that our subcommittee chairman and my colleague on the Finance Committee, Senator Pat Moynihan, will join me in conducting another field hearing here in Minnesota on some of these narrower issues of public/private financing of transportation projects later this fall. We have a full agenda here this morning, however, and I'm eager to get started.

Thank you again, Steve, for your willingness to come to Minnesota to listen and learn from what our State has to offer.

Lionel, if you would make your statement at this time.

STATEMENT OF LIONEL H. WOOD, ACTING REGIONAL ADMINISTRATOR, REGION V, FEDERAL HIGHWAY ADMINISTRATION

Mr. WOOD. Thank you, Mr. Chairman and members of the subcommittee. I have a prepared statement that I brought with me, but in the interest of time I think I will summarize the statement.

Mr. Chairman and members of the subcommittee, I am Lionel H. Wood, Acting Regional Administrator for Region V of the Federal Highway Administration. I am very pleased to be here to discuss with you the future of the Federal-Aid Highway Program and other related issues that you mentioned in your letter of invitation to me.

To begin with, I think it's very important that we talk about the national transportation policy rather briefly and bring those ideas forth to you. Starting with the beginning of the Administration of Secretary Skinner, he undertook the development of the national transportation policy; it began about a year ago. In that, the Department of Transportation met the American people in more than 100 public meetings. In essence, what we heard was a call for improved transportation systems, a system that has greater capacity, a sound financial base, a system that supports our national goals, including the areas of safety, national security, environmental protection, and accessibility for all.

The policy itself has six major themes: one, maintaining and expanding the existing transportation system; two, providing a sound financial base for transportation programs; three, maintaining a strong and competitive transportation industry; four, ensuring public safety and national security; five, enhancing the environment and the quality of life for our citizens; and six, advancing transportation technology into the 21st century. This policy was the basis for preparing the Administration proposals for highway, transit, and highway safety programs and other near-term legislative initiatives.

In developing the national transportation policy, we conducted numerous analyses in an attempt to determine how to reshape and redirect the Federal-Aid Highway Program to conform and enhance it to a changing future. These efforts included an examination of the future role of the Federal Government with respect to highways. We must recognize that there are new and different roles to be played by Federal, State, and local governments that incorporate a realignment, perhaps, within Government transportation programs.

We believe that the bridge program must, however, continue to be a major Federal emphasis area. There are large numbers of structurally and functionally obsolete bridges around the country. By some estimates, perhaps as many as 40 percent of our American bridges are in need of replacement to adequately serve their purposes.

We are considering devoting additional resources to research and development and including within that research and development the improvement of highway safety through human factors research and study. That research in technology includes such things as looking into the intelligent vehicle/highway systems, extending beyond the completion of the Strategic Highway Research Program, some additional time for looking at and researching into long term pavement performance, and we expect and intend that that program will be important in shaping our future programs.

The Department of Transportation is also interested and involved in promising technology transfer, such as the maglev system, magnetic levitation system. Although the Federal Highway Administration, for whom I speak, is not specifically involved in that program, it is possible indeed that some of the rights-of-way of interstate highways or other major freeway rights-of-way may be used to help bring about such a system in the areas where it is decided that it would be useful and capable of being implemented on a trial basis. We do not know the exact extent to which that could be done, but some indications are that there are several locations throughout the country where that would be suitable.

In your letter of invitation, you expressed interest in the transportation needs of States with large geographic areas and agriculture-based economics. This, very obviously, is an area that's of interest to the Federal Highway Administration and to the Department of Transportation. We believe that an efficient and well-maintained rural road system is essential to the movement of goods and services and products such as grain, produce, milk, timber and such to the marketplace.

If any part of our transportation link with rural America is too slow or too expensive, American agriculture suffers from it, and that's a substantial part of the American economy. The issues in rural areas are somewhat different from the issues that are being faced in urban America, and yet the are common, and funding on a continuing basis is necessary.

That concludes the summary of my prepared statement. I am prepared to answer questions.

Senator DURENBERGER. Thank you, Lionel, very much.

Let me call our first panel, then. Commissioner Len Levine, the Commissioner for almost four years now; State Senator Keith

Langseth, Chairman of the Transportation Study Board; and Steve Keefe, Chairman of the Metropolitan Council of St. Paul.

Thank you all for being here. We would appreciate it if all oral statements were kept to 5 minutes. All prepared statements will be included in the record in full.

Before you begin, this is a paper, Steve, by the National Association of Towns and Townships. You may already have a copy of it, but I'd like to make it a part of the record of this hearing. It's about funding local roads and national transportation priorities. In the audience are a lot of the leadership of the towns, townships, counties, municipalities, and so forth. (See p. 178.)

All right, we will begin with Commissioner Levine.

STATEMENT OF HON. LEONARD LEVINE, COMMISSIONER, MINNESOTA DEPARTMENT OF TRANSPORTATION

Mr. LEVINE. Senator Durenberger, Senator Symms, I am very pleased to represent Governor Perpich at this important hearing this morning. The Governor regards transportation improvement and safety enhancement as one of his top priorities.

I have submitted written testimony which addresses the specific questions you identified in your letter inviting me to appear before this committee. This morning, however, I wish to use my time to focus on the important issue of Federal transportation funding.

Last week I returned from a visit to Europe. The transportation officials of Germany and France invited me to learn about their super-speed rail systems and other transportation technologies. I'd like you to know that what I saw convinces me that America is many years behind in the efficient movement of people. There is a transportation revolution occurring in the world, and the United States is standing meekly on the sidelines. This country isn't even in the race to meet the increasing transportation needs of its citizens.

Our highways are jammed, we have gridlock on our freeways, and windlock at the airports. Things are getting worse and will get much worse before they get better. It's a national disgrace. While western Europe flies ahead with sophisticated technological development, America spins its wheels. We desperately need strong leadership to get us moving once again.

I'd like to publicly commend the United States Transportation Secretary, Sam Skinner, for the foresighted national transportation policy statement he issued last March. His ideas are current and his thrust positive. Some have criticized him, but I have not been included in that group. He needs legislative support so that adequate Federal dollars will be allocated to enable America to catch up. We need action at the national level, and lacking that, America will continue to fall further behind. If substantial steps are not taken immediately, just 10 years from now America will be facing a transportation crisis which will affect every segment of life in this country, paralyzing the United States.

As Senator Symms said earlier, the previous generation created the finest highway system in the world. It was begun in 1956 and was built with Federal dollars and United States engineering know-how. It reflected a national commitment to meet the trans-

portation needs of our people. As a result of the U.S. Interstate System, the economy of our Nation was able to drive forward.

I ask the question, what has this generation done? We have watched our once-magnificent interstate system deteriorate, we're leaving our children and grandchildren a worn-out transportation system with inadequate funds earmarked to rebuild the crumbling infrastructure.

The people of Minnesota and the businesses all around the State are hurting because transportation has failed to become a top national priority. Something has to be done, and I applaud you, Senator Durenberger and other distinguished members, for coming here today to seek answers and assistance on this important subject.

Chambers of Commerce and other groups around Minnesota recognize the importance of transportation to their local economies. They helped us secure an increase in our State gasoline tax so that we could improve our transportation system here in Minnesota. And when it comes to transportation safety, we know what Minnesotans are thinking. Last fall, Governor Perpich and I attended, with many people sitting in this room, 14 highway safety forums all across the State. More than 2,000 men, women, and young people came to these public meetings. More than 700 people testified about transportation safety.

The lack of adequate transportation funding at the Federal level is jeopardizing public safety in America. Because of insufficient funding, highways and bridges—as Mr. Wood said—throughout the country are deteriorating, and we know that this deteriorated infrastructure results in hazardous driving conditions and can lead to increased highway accidents and increased fatalities. This very serious safety situation demands immediate and bipartisan national attention.

Secretary Skinner's national transportation policy has laid a good foundation for a new beginning. What is needed now is a strong financial commitment to supplement the policy. We must begin by preserving the integrity of the Federal Highway Trust Fund, as you've indicated. This means spending highway user taxes for the purposes for which they were collected—improving our transportation infrastructure. We must also begin, as you said, to spend down the approximately $16 billion balance that was accumulated in the Highway Trust Fund. It's reprehensible to let our roads and bridges deteriorate while unspent revenues accumulate in the Trust Fund.

For Minnesota, the limits in obligation authority that the U.S. Congress has imposed have resulted in an unspent buildup of approximately $200 million. This is tax revenue that users of the Minnesota highway system have paid for road and bridge improvements. The money should not be used for economic juggling to make the size of the national debt appear smaller.

Removal of obligation authority limits and moving the Transportation Trust Fund off of the unified budget are essential if we are to begin addressing our serious transportation problems. Once we tackle these problems in a straightforward manner, we can begin pursuing a transportation agenda with a vision for the future. The development of new transportation technologies must be the legacy we leave our children.

Significant resources must be dedicated to transportation education to develop a new generation of transportation professionals. We must regain the technological edge this Nation once enjoyed if we are to compete in today's world market.

In Minnesota—and, Mr. Wood, you've alluded to these points—we have begun to take the first steps into the future. You all were exposed to this earlier today at our Traffic Management Center in Minneapolis. The Guide Star Program of the Intelligent Vehicle Highway System and the traffic management techniques there are unique to the United States. As you are aware, Secretary Skinner highlighted the Guide Star Program as a model in the national transportation policy, but for progress to continue in this area, a serious commitment from the Federal Government is needed to finance the research and development necessary for the Guide Star Program to become a reality.

Mr. Wood, I know you have received information on our efforts here in the State, one of the pioneer States in the exploration of super-speed train technologies. Recently, the Transportation Departments of Minnesota, Wisconsin, and Illinois agreed to conduct a preliminary feasibility study of super-speed train service between the Twin Cities, Milwaukee, and Chicago. The purpose of the study is to determine if there is sufficient public interest in utilizing super-speed train service. The $250,000 feasibility study will explore all super-speed train technologies, including magnetic levitation, the maglev.

In addition to the Tri-State super-speed study, MN/DOT will be conducting an in-State study of super-speed rail service. Community leaders, legislators, and transportation officials from Duluth, St. Cloud, Mankato, and Rochester/ Winona all met here on the 29th of May to discuss this proposal. I must tell you that I have never seen such excitement. There was electricity in the crowd. The room was packed. People were very interested in participating in a study of super-speed train service connecting their cities via Minneapolis and St. Paul. I'm visiting these five communities to discuss this matter in the next week, and at 10:30 this morning the Governor's Super-Speed Train Commission has its first meeting and kicks off.

In the years ahead, I am hopeful that Minnesota will continue to be a national leader in the development of new, innovative transportation technologies. A partnership between the Federal Government, the State, and the private sector is needed to make these new technologies convenient, workable, and cost-effective alternatives to today's clogged airports and highways.

Today we are at a crossroads in transportation. The State of Minnesota and its people—Republicans and Democrats—are working together, doing their part to ensure a strong and vital transportation infrastructure. It is now time for the Federal Government to provide strong leadership and a new direction and vision for the future.

I want to thank very much again the members of this subcommittee for inviting me to appear at this hearing.

Senator DURENBERGER. Thank you very much, Commissioner.

Senator Langseth.

STATEMENT OF HON. KEITH LANGSETH, STATE SENATOR, AND CHAIR OF THE MINNESOTA TRANSPORTATION STUDY BOARD

Mr. LANGSETH. I am State Senator Keith Langseth. I'm a Senator from rural southwestern Minnesota and Chairman of the Transportation Study Board. This board was set up for the purpose of looking long-range at transportation policy. In the legislature, much of the time, we have just gone with very short term action, and when the pressures would build we would pass some funding and then put it on the back burner for a couple of years. This board is made up of several legislative board bodies and also lay people from around Minnesota, and we have been traveling around the State and taking testimony, and we're going to be coming into the legislature this next session with the recommendations of policy and funding.

Funding has, of course, always been sort of the basis of political decisions being made with regard to transportation. The gas tax, I remember, used to be a pretty good tax in that it usually would go up about 5 percent a year and inflation would go up about 5 percent a year, and you could keep it the same, and the program would stay the same. If you wanted to increase the program, you just increased the tax.

What has been happening now is, for example, last year we had about a 1 percent increase in usage and about a 4 or 5 percent increase in inflation, which means that about every three years it's going to go up about two cents a gallon. The State of Wisconsin, it's going to take another week before we can start indexing it, but we've tried that and thus far haven't been able to get going with it.

I kind of feel that about the best we can do with the gasoline tax at the State level is to just keep the present program, and in order to do that it will take some pretty significant increases over a period of time. Recently, we also increased the license plates, even though we are fairly high on that anyway. I think we will be taking in, once that's being done, about $300 million. But there again, people have been keeping their cars longer. To try to supplement this, we've taken the sales tax from automobiles, the motor vehicle excise tax, and we're trying to phase that in and supplement it. We're at 30 percent now, and that's always a big conflict with the rest of the general funds, since that's where the sales tax on automobiles have been working in the past, so we've really had a lot of problems with that, but we are transferring 30 percent of that to the highway fund at the present time.

One of the things we're talking about is tolls and private plans. We introduced legislation last year which would allow local municipal government and the DOT to enter into agreements with private companies to build toll roads. I think that's what they want in the proposal that we are going to be coming up with. I think it's pretty clear that we're simply not going to be able to raise the taxes enough to meet those needs, so the toll roads we expect will be a part of it.

One thing we're looking at with a certain amount of anxiety is the budget deficit at the Federal level, and I'm as concerned about that as anybody. We are a little bit concerned about the possibility of a fairly large gasoline tax increase to fund it. I think it's pretty

clear that if you raise it quite a bit, it will mean that our using will probably go down, and that will create a bigger problem at the State level, and I would suggest that if you do go through that that you at the same time have several cents and you put it in transportation. Once that level of gasoline price goes up quite a bit, it's going to be that much more difficult for the Federal Government or the State governments to pass gasoline taxes.

Transit is a very important mode of transportation in the States. For the metropolitan area, it is very, very important. I believe in the rural areas we've gone from 41 systems up to 60 in the last few years. We are looking at light rails in the Twin Cities as a possibility. We're concerned that Minnesota pays in a whole lot more to that fund than what they collect. I believe we get about 28 cents back for every dollar we send in, and it appears that when we're talking about light rail that we can get no assurance from the Federal Government to participate in that light rail system, even though many metropolitan areas in the United States have quite a lot of funding.

We do hear that in the upcoming proposals at the national level we'll hear the term "highways of national significance." We expect to have some input on that. Just from some preliminary figures we've seen on that, I think maybe Minnesota will not have as many miles on that as we would like to have, and we think that maybe that should be somewhat flexible as far as what the States are able to do, even though we understand that the Federal Government has to have a good Federal policy in that regard.

Another thing of concern is the energy policy as it relates to transportation. I think we all realize we're going to have to have energy conservation in this country to survive well into the future. Just how we are going to be able to fund transportation as we make changes in the energy policy is of concern to us, and I guess it is our feeling that in order to do the job that needs to be done in the State of Minnesota, we are going to have to have increased Federal participation.

The State of Minnesota is one of the higher gas tax States in the United States, and normally when we pass an increase we're in the upper five or so, and our license plates is one of the highest in the Nation, so we've been willing to make a commitment at the State level, and even though there's a large outcry when we do it, people do seem to accept it and feel that they're getting a good return for their money.

I guess with that I will conclude my statement. I will be happy to respond to any questions.

Senator DURENBERGER. Thank you very much.

Mr. Keefe.

STATEMENT OF STEVE KEEFE, CHAIRMAN, METROPOLITAN COUNCIL

Mr. KEEFE. My name is Steve Keefe, and I'm the chairman of the Metropolitan Council in St. Paul, Minnesota.

The development of the interstate system has been very important to the economic development of the Twin Cities. It's a critical factor in why the Twin Cities economy works so well. In spite of

the fact that we have high taxes and lousy weather here, the Twin Cities——

Senator DURENBERGER. That's the part you want to go over real fast. [Laughter.]

Mr. KEEFE. But there are some problems with that. As the economy becomes more internationalized, the success of big places like the Twin Cities demands very heavily on transportation. Part of the reason people's businesses are willing to locate here is because the density and the economic activity here create a lot of economic opportunities. That will be particularly important in the future in terms of access of the work force. As the economy gets more specialized, there's a greater need for more specialized skills. Part of what makes it worthwhile for the Honeywells to be in a high tech place like the Twin Cities is they need specialized chickens, and here they've got a good chance of stealing them from each other.

At worst, as long as it's possible to live and work in the Twin Cities, if transportation becomes too congested, then we become several small economies instead of one big economy, and we become quite a bit weaker. Also, it's why we in the metropolitan area are and should be interested in highway access to rural Minnesota as well. The small towns, the smaller cities in Minnesota, are a very important part of the economic infrastructure here, and the fact that businesses here have access to suppliers with low overhead in places like in smaller towns out there are critical to our economic growth as well as theirs. I would argue that we're the market at the end of those foreign market roads, and those roads are just as important to the cities as they are to the smaller cities in Minnesota.

On the other hand, we see that access deteriorating, partly because transportation demand is growing so much faster than our ability to meet that demand. We've seen a number of miles of severe congestion on Quincy's Freeway triple in the last 10 years, and it's going to triple in the next 15 even if transportation expenditures continue to rise at the rate they have before. I believe sincerely that if the people in the Twin Cities knew what they faced in the way of congestion in the next 15 years, they would prefer a 50-cent gas tax. I don't have to run for election, so I can make these proposals.

What we saw in the late 1970s, when the price of gasoline tripled, the total number of trips that switched from the private automobile to public transportation was less than 1 percent. People need their private automobiles, the disperse jobs and economic opportunities in the Twin Cities require it, and we need this kind of transportation.

We in the Twin Cities have tried to pursue a series of priorities that protect the existing system: first, maintenance of the existing system is critical—we've got a multi-billion dollar investment—second, management of that system. We're trying to do everything we can locally to make the most of the Federal transportation investment, and we expect to meter all our freeways in the western two-thirds of the metropolitan area to try to keep the short trips on and make sure they're open for the long regional trips that they're designed for. The cities are doing a very conscientious job of build-

ing the local streets infrastructure to handle the short sojourners and keep them off the freeways.

But even in spite of that, I've seen a growth in demand, and part of the difficulty is that our investments in transportation have been limited by the nature of funding. When all you have is a hammer, you tend to think in terms of driving nails, and we try to look at different modes for moving people most efficiently through a particular corridor. What we're finding is that the limitations on ways of using the money are somewhat intricate.

On the one hand, the gas tax dollars need to be used for highways, and we're looking right now at a whole series of modal splits and different choices, whether you put light rail here and the high occupancy vehicle lanes and meter the freeway and all that sort of thing, and what we're finding is that, you know, we come up with a solution that shows the cheapest thing to do would be the light rail, and we haven't got the funds to do it because of the shortage of funds from the State and also because the Federal highway dollars are limited to the freeway. We think we need more flexibility in that.

The other thing that I think is going to be very important is that there continue to be a very strong Federal role. As we build roads locally to try to deal with economic growth, we have a tendency to focus too much on the competition between ourselves. You know, one community is trying to attract a shopping center, and a lot of activity gets involved in things that don't really affect the national economic outlook. There needs to be a strong Federal role so that the Federal Government can help us to focus on the cost-benefit impacts and the long range economic competitive impacts that are going to be so important to our Nation.

Thank you very much.

Senator DURENBERGER. Thank you very much.

Leonard, I would thank you for your comments about light rail. I saw the maglev first in 1981, and I think in 1983 I actually rode on it, not in the car itself, but on the side of the computer simulation. You're right about the fact that unless the whole country gets excited about it nothing is really going to happen, so I compliment you on your interest in that and also in your interest in other areas of the compatibility of rail and highway transportation.

Generally, we need leadership in infrastructure, and in transportation we need it in R&D. There is no R&D money going into transportation. There is nothing new being invented other than cameras and electronic things that that we see. I think you'll find a lot of strong feeling about that across the country. Many of the groups represented here and in Washington, D.C., and certainly on our committee, feel we need a greater investment in the technology, in the traffic management technology, the education of the professionals whose minds are being competed for by a whole lot of other people in this country.

I just want to ask you one question about the alternative. I'll ask all three of you the question. Steve made the point about the gas tax being tied to a road. We drive on the road, we use the fuel to power our cars, the tax then has to go back into that highway. How about all these alternatives? He made the point that 28 cents on the dollar comes to Minnesota.

The reality is we ought to be thinking differently about how to finance these alternatives, particularly in rural areas. Otherwise, we stretch this out, and we try to do these inner city buses and things like that in rural areas, which is good, but we really currently are missing some financing opportunities for alternatives nationally in communities that aren't in New York City or L.A. or D.C. or something like that. Do any of you have some thoughts on that?

Mr. LEVINE. Senator Durenberger, I appreciate your comments to me about my statement today, and I think you're absolutely correct, and you've been a long-time advocate for providing some flexibility to the States, but I don't think we should ever diminish the Federal role to the point that it becomes a haphazard arrangement out there.

Minnesota happens to be a great State with bipartisan support of transportation, and we can do very well. Then you could go to an adjacent State, and maybe for some reason there isn't anything missing, and then suddenly you could go to the opposite. So I think we need to follow the example set by the Federal Government when the interstate system was developed, and it was a system of uniformity and standardization, and I think that has to be the key, that somewhere in there the 20/20 process that's being developed gives some room for some flexibility, because our job needs to be moving the people, and we need to get away from a total rigid category where you're locked in, and I think that's what you've been saying for a long time, and I think the transportation officials would agree with that position.

Senator DURENBERGER. Thank you.

Any other comments?

Mr. KEEFE. Yes, I think that it's important that there be a strong Federal role, because there are certain national priorities which transcend the sum of the local priorities. You know, from the local perspective, the most important thing that a freeway does is open up development in that particular area and the need to run the freeway through the middle of town so that all the tourists have to stop and shop there. That doesn't improve the inner city transportation, which is financial priority, on which the local people tend to be less focused.

I think the most critical thing is making sure that the money is flexible enough that you really look at what's the best transportation solution, not just what's the best transit solution or the best highway solution, because frequently these things working together work better than either one separately.

Senator LANGSETH. I think a lot of people would be very concerned, though, when you have a gasoline tax that's having a pretty hard time simply keeping up with highway maintenance to use it on something else, and there are other alternatives such as piggyback sales taxes and so on which are used in other urban areas which could be used in a like manner.

Senator SYMMS. I would like to ask you, Senator, and all of you just to comment briefly. You mentioned in your testimony about the problem of perceived Federal highway gasoline taxes going to into a general fund. Senator Murkowski and other people in Washington have advocated this. Some of us have been very strongly in

opposition to it. Now, is it my understanding you have a 19-cent a gallon tax now?

Senator LANGSETH. Twenty.

Mr. LEVINE. Twenty.

Senator SYMMS. Twenty. And yet if we raise the Federal level, it just compounds the problems of local legislators, basically, is that your point?

Senator LANGSETH. Yes, I think one of the big factors is that usage probably would go down if you had a 15- or 20-cent increase.

Senator SYMMS. That would shrink the State dollar.

Senator LANGSETH. It puts a difficult burden on the backs of many of us who have to drive long distances to work. Raising the gasoline tax not only puts a difficult burden on Minnesota for the lawmakers to raise the gasoline tax, but it also puts a tremendous burden on people who have to pay that gasoline tax to go to work in a job far away.

Senator SYMMS. Well, all too often I guess that's what happens. We agree with you and have both opposed using Federal fuel taxes for anything other than transportation needs, but I think that it is a thread, and any influence that you can exert on others in the Congress would be well taken. We're both on the Finance Committee, and I think the Senate Finance Committee would tend to be opposed to this, but in the House where it's more urban oriented, I wouldn't be too sure that the House would not recommend some kind of a tax.

Senator DURENBERGER. Gentlemen, thank you very much. We appreciate your testimony.

I have two other statements to add, one from the Association of General Contractors of Minnesota and the other from Robert Hirshburg, Executive Vice President, Upper Mississippi Waterway Association, which will be made a part of the record. (See pp. 150, 175.)

Now we introduce Dr. Ed Schuh, Dean of the Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota; the Honorable Frank Swedzinski, the Lincoln County Commissioner; and the Honorable Steve Quam, the Mayor of Richfield.

Thank you very much. Yours statements will be made a part of the record, and we'll begin with Ed Schuh. Thank you very, very much, all of you, for being here, and thank you for taking the time to prepare your statements.

Ed, thank you. Go ahead.

STATEMENT OF G. EDWARD SCHUH, DEAN, HUBERT H. HUMPHREY INSTITUTE OF PUBLIC AFFAIRS, UNIVERSITY OF MINNESOTA

Mr. SCHUH. Thank you, Senator. I appreciate the opportunity to present my statement. I'll try to keep my remarks to five minutes.

My remarks, in the first part, have to do with propositions in thinking about the interconnections between or interrelations between beyond the development of a transportation system, and I have a feeling that we don't always give that the attention that we should. In the second part, I have some suggestions for designing an efficient transportation system. I would want to reflect on the

record that a lot of my remarks are based on my experience with a University of Minnesota Center for Transportation study.

Let me talk about these propositions very quickly. One of the points that I make in the statement is that one has to think about the world of transportation in the context of the kind of economy that we have in the upper Midwest, and the kind of economy that we have is one that's rather sparsely settled, but at the same time at the far end of the lengthy transportation system, and particularly when you think about the upper Midwest competing in international economy, the transportation costs loom rather large to the cost of putting our products in those foreign markets.

The second feature of this economy is that it's characterized by a couple of major urban centers and a rather extensive interlink, if you will. One of the things that one needs to do is to not only link these major urban centers with their rural interlinks, but to also link major urban centers with each other.

Other things that I talk about here in this part are the fact that commodities play an important role in economics of the region, ranging from energy products to agricultural products. I'll talk more about that later. Tourism is important for the region, and in the case of tourism, rather than hauling commodities around, we're hauling people around, bringing people into the region so that they can take advantage of the tourist services that we have here.

The second proposition I'm going to make about the economy when we think about trade with the rest of the world is that the U.S. economy tends to be transportation intensive, and it tends to be transportation intensive for two reasons. One is that we simply are a large country, so we have to be hauling a lot of things back and forth, and second, that buying commodities makes up an important part of our total output in agriculture, some of the energy commodities, that sort of thing.

The third proposition that I make in the first part of the paper is that the importance of the transportation infrastructure in an economic development policy, I think, has been badly neglected in this country. I mean, the highway systems we have, the design of our corridor areas the defense established with some input about development policy, but really not all that much.

The fourth proposition I make is that the Nation has a policy impairment at this point and has peaked internationally in the export of goods and services. Another point that I'd make, and I think it's one that doesn't get the attention it deserves, this country is becoming increasingly dependent on the importation of raw materials, and we import over 50 percent of each of the 13 primary raw materials. So an important part of remaining competitive is to have a transportation system that will enable us to get these raw materials into the upper Midwest, if you will, and into other parts of the country.

Let me talk about a couple of points that have to do with designing an efficient transportation system. One of the points that I'd like to emphasize, and one that we've tried to give attention to in the Center for Transportation study, is that one has a tendency when you're redesigning and thinking about improvements in the transportation system to start from where you are and make marginal changes to it. The point that we tried to make is that if it

needs enormous changes in the technology of the transportation sector, and we've heard about some of them already this morning, what one really ought to do is to sort of sit down and think about what an ideal transportation system would be and then design that.

We could probably do that a lot more efficiently than we do this sort of thing of this marginal change and that marginal change there. We have in fact set up a study to try and project ahead the economy in the upper Midwest in this transportation study with the idea being to design from that back to what would be the most efficient or ideal transportation system. It's a tricky, tricky proposition, but there are ways that one can deal with it.

A couple of other things that I emphasize are environmental considerations. I suspect that environmental issues are going to be playing increasingly dominant roles in the design of our transportation system from a fossil fuel standpoint to the global kinds of environmental issues that often come up.

Another point that I make in my statement is that, you know, it's a case now where there's a lot of substitution possibly between our communication system and our transportation system. That's particularly true as our economy shifts more and more to an emphasis on the surfaces. So I think when we talk about designing this efficient transportation system, we need to be thinking about what's happening in the communication sector as well and try to get the two of the linked up and interacting with each other.

The only other thing that I have some comments about is when we do some of this R&D and do some of the design work on the transportation system that we try to get multiple disciplines involved, sociologists involved in it as well as engineers.

Thank you again. I appreciate the opportunity to be here.

Senator DURENBERGER. Thank you for that very thoughtful paper. It was very comprehensive.

Frank Swedzinski, welcome.

STATEMENT OF HON. FRANK SWEDZINSKI, COMMISSIONER, LINCOLN COUNTY, MN

Mr. SWEDZINSKI. Thank you, Senator Durenberger, Senator Symms, and Mr. Wood. My name is Frank Swedzinski. You probably noticed when you have a long name, the print gets pretty small. I am the County Commissioner from Lincoln County, Minnesota, and the chair of the Association of Minnesota Counties Transportation and Agricultural Policy Committee. Thank you for inviting me to appear today before the Water Resources, Transportation and Infrastructure Subcommittee to discuss the reauthorization of the Federal Highway and Mass Transit Program.

While Minnesota counties are interested in many aspects of transportation, my remarks today will center around surface transportation—transit, highways and bridges. Minnesota is in the midst of discussions regarding transit surfaces in both metropolitan and rural areas of the State. Much of these discussions are light rail transit. The Federal Government should be encouraging light rail transit as one method of reducing congestion on our highways.

The need for rail transit in Minnesota is becoming increasingly important as the elderly population becomes a larger and larger portion of the world population and their ability to travel without assistance is reduced. Transit services in rural areas are needed and deserving of increased Federal support. Many counties are still struggling to get out of the mud. In some counties, there is adequate paved road surface, but in others that is not yet the case. While the State of Minnesota and counties are working toward this goal, it is hoped that the Federal Government will continue to increase support to local governments for road improvements.

Many roads under county jurisdiction are funded solely by property taxes. Public expenditures in other areas are increasing at a rate higher than inflation, which, together with property tax limits, is reducing the ability of counties to raise local revenue for transportation improvements. Minnesota has been very progressive when it comes to transportation financing. Our State's gas tax has been substantially increased during the 1980s. County government in Minnesota believes in and supports a user fee-based transportation funding system. We urge you to oppose any efforts to increase the Federal gas tax for deficit reduction purposes.

The balance of the Highway and Transit Trust Funds continues to be a contentious issue. Counties would support the draw-down of the existing balance to meet the pressing needs of our counties' transportation system. Existing and future Federal transportation funds must be used in a manner which will be of benefit to all areas of Minnesota and, certainly, the United States. Interstate urban and rural transportation issues must receive equal consideration.

Bridges serve an important link in our transportation system that is increasingly overlooked at the same time that bridge deficiencies are increasing. A report released by the Minnesota Department of Transportation in 1988, and another by the Minnesota Transportation Alliance, document the current status of bridges in Minnesota. These reports indicate that the annual financial needs for bridges in Minnesota is between $17 million and $118 million per year. By comparison, in 1987, $33 million was spent in Minnesota on bridge replacement.

Local governments are unable to meet this problem without increased Federal and State support. The Federal Government is urged to increase its commitment to bridge replacement. A highway system is only as good as the bridges that connect it.

The economic situation in many large and rural areas in Minnesota begs that the transportation needs be addressed. Many metropolitan areas are growing rapidly in the United States. One factor leading to this growth would seem to be the better transportation connections that metropolitan areas have with other regions of the country and the world. Metropolitan growth puts additional pressures on transportation systems, metro systems, and other public services.

It would seem in the best interest of all that Federal resources be invested to the extent practical to stabilize and expand the world economy. Transportation policies clearly affect the local economies within Minnesota. Business people will tell you that a primary factor in obtaining a business are the transportation connections in

the chosen community. Transportation improvements are the essential ingredient to local economic development efforts.

In summation, there are many pressing needs faced by local governments in Minnesota. An effective, efficient transportation system can be an element to overcome other problems or can be itself a problem in need of additional support that only the State or Federal Government can be of assistance in correcting. The Federal Government clearly has a role in transportation. The county government in Minnesota places its trust that the reauthorization of the Federal Surface Transportation Programs will chart the proper course to improve the economic and social well-being of the citizens of the United States.

Mr. Chairman, this completes my testimony, and I thank you for being here today.

Senator DURENBERGER. Thank you very much for coming in.

Mayor Quam.

STATEMENT OF HON. STEVEN J. QUAM, MAYOR, RICHFIELD, MN

Mayor Quam. Senator Symms and Senator Durenberger, I appreciate the opportunity to provide testimony here on the national transportation policy. Thank you for being here.

I am the Mayor of Richfield, Minnesota, which is a suburb that has a population of about 35,000 people and which is located between the three largest cities in the State of Minnesota—Minneapolis, St. Paul, and Bloomington—and adjacent to the International Airport. Needless to say, we have an interest in a broad range of transportation issues. Today I think you will hear some of the suburban urban issues of the national transportation policy.

In the city, we recognize the importance of transportation to ensure adequate mobility and quality of life for our citizens and also recognize that it is important as a catalyst for economic development. Suburban growth in the 1950s and 1960s was essentially residential. In the last two decades, the growth has been in office and retail development. Jobs in the Twin Cities grew 41 percent between 1970 and 1986; most of that was in the suburbs.

As a consequence, the suburbs have realized a significant loss in mobility. Rush hour congestion has become a common occurrence in the suburbs. From the mid-1970s through today, the miles of severely congested freeways in the Twin Cities metropolitan area tripled from 24 to 72 miles, and most of those were in the suburban area. The concept that congestion occurs downtown is really no longer a reality.

As we look at the urban area, I'd like to make the point that each mile of that type of congestion has a significant impact on thousands of people in the cross streets and the cross neighborhoods as overflow occurs in those areas and also impacts the economic integrity of the metropolitan area, as Mr. Keefe mentioned before.

Transportation planners anticipate about 200 miles of our metropolitan freeway systems could be severely congested by the year 2010. Richfield is surrounded by four major highways. Traffic on those highways has increased between 50 and 90 percent from 1972 to 1988 and is expected to increase by another 50 percent over the

next 20 years. At the same time, those highways are approaching the end of their life expectancy at about 30 years of age. In fact, at this time, every one of those highways is either under reconstruction or the process of planning is underway for that reconstruction.

The city of Richfield supports those improvements as necessary, but under existing funding scenarios, planners anticipate an annual shortfall for transportation in this metropolitan area of well over $100 million over the next 20 years. Because of that critical delay it will cause on the traffic environment in the metropolitan area and the social disruption that is caused by uncertainty caused by that delay, we urge the use of the transportation funds for transportation as quickly as possible. In the long term, because of the magnitude of the need, the Federal Government may want also to strongly consider increases in the Federal gas tax for transportation purposes.

An important consideration in structuring the Federal spending is the way in which funds should be applied, and the principal word which was heard here already and which I concur with is the word "flexibility." One area that is not often addressed in considering transportation is the impact construction has on the aesthetic environment of our urban communities. I believe that increased attention to the aesthetic impacts of urban highways would increase the public acceptance of these facilities and make it considerably easier and perhaps less costly to sanction the improvement.

At the present time, the public expectation is negative about national transportation facilities through the urban areas. They're considered to be utilitarian and insensitive to the needs of the urban areas. We need to be able to continue as we have been to increase our ability to have flexibility for spending in areas that are really inexpensive but very important to our area—walkways, bikeways, that keeps neighborhoods from being split apart, trees, sound barriers.

The Federal transportation policies also need to recognize the needs of corridor areas and urban areas that are composed of simply the needs for improvements within the confines of freeway rights-of-way. Some municipal streets, for example, serve a regional transportation function as neighbors to the freeway system during deep traffic periods, and as such it may be more economical to have freeways built at the level that they're built and at the same time make our transportation system as dependent on the local support of the streets, and as such those streets should receive Federal funds similar to the Federal Aid Urban Program that exists.

Another example of the need for flexibility—I–35 has been mentioned. It is clearly a freeway that requires a multi-modal solution for transportation. It appears at this time that we're reaching a point in the urban areas where it's no longer acceptable simply to rely upon right-of-way takings for increased capacity within urban areas. We need a mixture of light rail transit and highway capacity or high occupancy vehicle lanes combined with highway capacity, and for that we need flexibility in funding.

There's an article in the Minneapolis paper today that talks about the delay that's occurring in the planning for I–35 simply because of the difficulty of mixing intermodal planning between light rail transit and the freeway. If we had that flexibility, it would

greatly assist local governments in permitting the development of a unified multiple transit plan. We support combining Federal transportation programs that give local and State governments the flexibility needed to develop unified solutions.

One point which I want to make very briefly is about the airport. It's not surface transportation, but it is part of our national integrated transportation system. One aspect we need to address in our surface transportation policy is the provision of surface transportation to and from the airport, and one of the solutions I mentioned in my text is, again, the concept of developing a high-speed rail system, which may perhaps already be capable of relieving some of that capacity requirement and existing right-of-way potential.

In closing, the city of Richfield believes that the Federal Government has a very strong role to play in development and maintenance of the major transportation systems. "No other industry in the Nation is more important to U.S. economic growth and international competitiveness than transportation," according to Secretary Skinner. The Federal Government cannot expect State and local governments and the private sector to be responsible for such a vital sector of the economy. The Federal Government needs to provide leadership and the necessary resources to do the job well. Thank you.

Senator DURENBERGER. Thank you very much.

I have one question which is relative, at least, to the question I asked the previous panel. There are various reasons why we could raise the gas tax or some other transportation-oriented financing vehicle in Washington at the national level. One would be that it's more efficient to do that than to do it all around the country. It does seem to me that that's a major reason for collecting all the money in Washington and sending it out here, because they seem to be doing a more efficient job. And then there's, with all due respect to my colleague on my left, there may be some inefficiencies in taking it out there and then sending it back here through this system.

Another reason would be there are certain things that are interstate and therefore national and international in character. Law enforcement is one of the examples of interstate. That's why we have an FBI. But then so is the economy, so is interstate commerce, so is the international competitiveness, so you may want to take some money to Washington but leverage something at the State and local level by way of transportation policy.

Then there are the issues like environment policy, energy policy, and so forth. We take the money out there, and we give you a little of it, if you will comply with our wetland policy, or whatever the case may be. I would just as soon get rid of all the responsibilities that I shouldn't have and the money also, so my natural inclination is to keep as little as possible back in Washington and send most of it back to the States to do whatever.

Can I start with you Ed, get a general reaction to whether or not you've given a particulary thoughtful review of the policies we happen to be looking at in terms of the collection function or the tax and the revenue collection function? How does that relate to implementing the policy?

Mr. SCHUH. Senator, I think that there are quite a number of important issues having to do with that, but I keep coming back to this point about raising gasoline taxes. I mean, it's an important input into our production processes and especially given the transportation intensity of our economy and into knowing publicly why we want to impose these wounds on ourselves, because if it's in terms of our international competitiveness over any other country that we have, then that's the issue that I think is terribly important and tends to get neglected, and I would view the division of labor between the States an important issue, but I would go back to the question of whether putting a tax on energy is really very good for our economy.

Senator DURENBERGER. I think you're right it's often neglected. It's not neglected by guys like Steve Symms, because they are at the end of all the pipelines, or at the beginning in some cases, but I think I acknowledge that, yes, we keep missing that point that we are adding to the cost of our own economy when we talk about adding major taxes to energy.

Any of the others, do you have any reaction about if we raised the Federal gas tax, we ought to send the money back to the States?

Mr. SWEDZINSKI. Well, Senator, you know, as a County Commissioner that's one of the things you always speak about, less mandates and more control, and just send us the money and we'll handle it, but there has to be some correlation among the Federal Government and the State government where we spend this money, and this would be one of the things that we certainly would like to be involved in.

We are competing, all of us. I think one of the gentlemen on the earlier panel said earlier that we should probably forget about some of this competition among ourselves. Well, that's true, in looking at a whole broad issue, we can say let's forget about competition, but we each represent a small area, and we want that area to certainly, you know, continue to increase in size and population and maintain the status we have as of today. So there is a local competition that we do have, as much as we'd like to dispense with it.

As far as raising gas taxes, we have about the highest gas tax in the Nation, I believe, but we do have some of the best roads, Senator, and it has been getting more difficult, as we said earlier, to maintain our roads when we do not have the usage of the fuel that we once did, and it's important that we do have good funding in order to keep our roads at a certain degree.

Senator SYMMS. Just one question, and that is to Dr. Schuh.

The question I have is, I have tried to encourage our Alcohol Fuel Association in Idaho and across the country to continue to push for having the tax credited out of the general fund and not the highway fund. What do you do out here in the State—I guess I should have asked the State Senator who was up here—with respect to splash-blend gasohol? Does that get an exemption from State fuel tax?

Mr. SCHUH. I think it does, yes.

Senator SYMMS. Sixty cents or something?

Mr. SCHUH. It's fairly high. It's two cents a gallon of gasoline.

Senator SYMMS. Two cents a gallon of gasohol?

Mr. SCHUH. Twenty cents.

Senator SYMMS. It would be 20 cents, all right. The dilemma we're in in the farm States is we have our constituency wanting to produce alcohol and have a little incentive to get into business, and then the other side takes the money out of the highway funds, so you're caught in a dilemma there.

Mr. SCHUH. I think it's a serious dilemma, because I think that subsidizing the use of alcohol for fuel is the object of putting the high tax on gasoline. I don't think it's a very wise thing to do.

Senator SYMMS. So you think we should steer as far away from that as we can?

Mr. SCHUH. Steer as far away from it as we can, yes.

Senator SYMMS. Thank you very much. We appreciate all your testimony.

Senator DURENBERGER. Thank you, gentlemen, very much.

Our next panel is Bill Smith, retired VP of Transportation, General Mills; Doug Smalls, current Vice President of United Parcel Service's Public Affairs Office in Washington; and Russell Thompson, Director of Transportation with CENEX/Land-O-Lakes.

Thank you, gentlemen, for taking the time to be here and for the time you've taken to prepare your statements, which will be made part of the record, and if you can deliver them in five minutes, we would certainly appreciate it, beginning with Mr. Smith.

STATEMENT OF WILLIAM K. SMITH, PAST VICE PRESIDENT, GENERAL MILLS

Mr. SMITH. Thank you, Senator Symms, Senator Durenberger, and Mr. Wood. My comments this morning are primarily in the context of freight. Much of what you've heard up to now has been in connection with people and mobility.

I start my comments by making reference, as Commissioner Levine did, to Secretary Skinner's February 1990 statement on the national transportation policy. In that statement, he makes reference to the infrastructure as the foundation of the Nation's transportation system and referred to bridges and highways and airports and rail lines, ports and waterways, pipelines, and other fixed facilities, and he sums up by saying the whole thing is at risk. I agree with him that it is at risk, and for brevity I'm limiting my comments this morning to only two of the things he referred to. I will make some comments on the highway, and I will make some comments on the rail lines.

The freight being moved in the United States is about six billion tons annually. It's grown in 3.6 billion tons over the last 30 years. That's one of the few major economic indicators in this country that has not increased by more than 100 percent. The present growth is very, very slow from 6.1 billion tons, so I don't anticipate seeing seven billion tons of freight in the United States in the decade.

At one time, the railroads handled about 30-some points of that, and the truck lines handled about 20-some percentage points. Over the last three decades, that's reversed. The railroads are now down in the low 20s, and truck lines are in the low 20s, with 10 percent

of the tonnage being handled switched from rail to truck. The other distribution, about one-third is handled by the pipelines. The railroads and truck lines together are handling about one-third, and the pipelines and waterways together are handling about one-third. The air part of the freight system, while it's a big thing with the airport noise and so forth and a lot of publicity, freight on the airlines, including Federal Express, United Parcels, and so forth, freight on the airlines is still one-tenth of 1 percent, which is not a very significant number of the 6.1 billion tons that are being handled in the United States.

As measured by tons transported, the railroads are less significant today than they were a few years ago, but the railroads is one piece of the infrastructure which is in better shape today than it was 10 years ago, 15 years ago, 20 years ago, or 30 years ago. The railroad infrastructure on an intercity freight-moving railroad—I'm not talking about Amtrak, I'm not talking about the dream of high-speed magnetic levitation or something, I'm talking about the system that's now moving not quite 30-some percent of 6.1 billion tons—is in better physical condition now than it has ever been.

The 40,000 miles of main line railroad that parallel the 40,000 miles of the interstate highway system 15 to 20 years ago were in poorer shape than the parallel interstate highway system. The 40,000 miles of railroad that parallel the interstate highway system today are in better shape relative over the last 20 years than the interstate highway system.

The change that has come about in the railroad reflects Government policy, the so-called deregulation, less economic regulation by the Interstate Commerce Commission that began in the 1970s, has produced better financials for the railroads, those financials have produced better returns, better track, better this, better that, and there's also been an ease of transporting so-called light density track—we used to say abandonment—the ease and the abandonment of track or in switching the track from big railroads to small railroads; in general, a healthier railroad system than what we used to have.

Railroads have also benefitted by Government policy in connection with tax policy in the 1980s. Railroads have benefitted from tremendous growth in transportation of coal, reflecting a lot of Government policies in the area of energy. Railroads have also benefitted from tremendous growth in transportation of so-called trailer on flat car or container on flat car or piggyback, reflecting Government policy changes as well.

While the railroads have improved, the interstate system has not been improving. Up until 1982, the income for the Federal highway system was basically hands on the trigger in 1958, when the system was set up. The Federal tax on fuel was four cents on a gallon, eventually raised in 1982 to nine cents a gallon, so there was a flat source of income, a tremendous growth in the number of vehicles using the system. Between 1960 and 1990, we've gone from 70 million vehicles to almost 195 million vehicles, almost a 300 percent growth in the number of vehicles on the highway, which contributes to congestion, contributes to wear and tear, and so forth.

I don't believe the railroads need anything except the Federal Government to basically keep their hands off of and let the system

go the way it's going. The railroad industry has some changes before Congress that they would like to have, but they can speak to those particular changes.

The highway system, I believe, needs more money. I think there are a lot of reliable sources on how much more money is needed. Every other year, by law, the Secretary of Transportation gives the Congress a report on the status of the Nation's highways and bridges conditions and performance. It says that if we're going to maintain what we now have, the Federal Government—somewhere in the system, whether it's Federal or State—we have to increase at least $10 billion a year and maybe $20 billion a year, and there ain't any way to come up with that money, in my judgment, without increasing the tax on vehicles and the users who are using the system.

So I think that we need more money, and there are all kinds of issues on where that money comes from. One of the best current statements on where that money issue is involved is the GAO report to the House Committee pointing out some of the issues of State versus Federal standards of maintenance, beneficiaries from the use of Federal money, some very, very important things which I think are involved on where the additional money comes from, as to State versus local.

You also have the issue of does the money come from the automobile or from the truck, and they are very horrendous things to work on, but there is a need, in my judgment, for additional money with respect to the highway system, and the principal part of that is the interstate highway system.

You asked Mr. Schuh about taxes, and people are always concerned about what taxes are going to do to the economy. Should we give back the money that we've invested in the interstate highway system, give back those taxes and maintain what we have in this country in the productivity of that particular system? The most dramatic tools of productivity that this country developed perhaps in this century was the interstate highway system, and we pay for it with fuel taxes, and I suggest that to maintain that and to expand beyond it, we're going to have to do the same damn thing, whether it comes from the Federal level, State level, whether it's the automobile or the truck. I think we're going to have to pay out a lot more and compete on fuel taxes.

Commissioner Levine talks about maglev. I think maglev is great, but you're never going to see it in this country until you've got the same tax structure in this country that you have in France, Japan, Germany, where fuel taxes on the vehicle are $2 to $3 a gallon, not 20 to 30 cents a gallon. Thank you.

Senator DURENBERGER. Thank you.

Doug Smalls?

STATEMENT OF DOUGLAS T. SMALLS, VICE PRESIDENT, PUBLIC AFFAIRS, UNITED PARCEL SERVICE

Mr. SMALLS. Senator Durenberger, Senator Symms, and Mr. Woods, United Parcel Service is pleased to offer you the following testimony on the future of the Federal-Aid Highway Program.

United Parcel Service is the largest common carrier in the world, serving more than 180 countries and territories worldwide. We are multi-modal, utilizing road, rail, air, and even on occasion waterways to move our customers 'goods. UPS serves one million daily pick-ups and delivers more than 11 million packages each business day with over 230,000 employees from 1,750 locations in the U.S. UPS is one of the largest cargo airlines in the world with one of the quietest fleets of any carrier, passenger or cargo.

In Minnesota, UPS employs 3,955 people in 36 locations. We operate 118 tractors and 1,213 package cars that traveled over 30 million miles in 1989 to deliver 55.1 million packages. Last year, UPS paid taxes and fees of $9.2 million to the State of Minnesota. Considering these statistics and that of other transportation companies, it is obvious that our Nation's economy is dependent on an efficient and productive transportation system.

Although traffic congestion has been with us for some time, it has only been regarded as a serious impediment to the economic growth over the last 8 to 10 years. Recent public opinion surveys indicate that residents of major metropolitan areas in the United States rank traffic congestion at the top of their list of major concerns. Traffic delays to commercial vehicles are conservatively estimated at costing carrier companies $4 million to $7 million a year. In today's marketplace, businesses have come to depend on the timely pick-up and delivery of packages and documents on a daily basis. It would be difficult to find a commercial building or even a street that a UPS driver does not serve every day.

Clearly, traffic congestion is not the only threat to our national transportation system. Federal roads and bridges are essential to the economic survival. Such improvements could cut down on congestion, reduce fuel consumption, improve air quality, increase productivity, and, most important, improve highway safety. One solution to the productivity problem is to allow broader use of longer combination vehicles, specifically triple 28-foot trailers, where they can be safely operated.

Decades of experience with triple trailer vehicles in 13 States have demonstrated that they are economical and, more importantly, safe to operate. The operation of triple trailers should require extensive driver training and rigorous preventive maintenance inspection programs. UPS believes that it is time to reassess the 80,000 pound gross vehicle weight rating for vehicles operating on Federal and interstate primary highways. The focus should be on individual axle loads.

A study released by the Transportation Research Board of the National Academy of Science on July 2, 1990, recommends that all States be allowed to establish long term permit programs for vehicles heavier than the current 80,000 pound Federal weight limit.

UPS believes that the use of longer combination vehicles should be determined by their safety record, efficiency, and whether the resulting increase in productivity will benefit the American economy. UPS believes that the Federal-Aid Highway Program should continue for bridge and secondary roads off of the national system to improve rural and urban mobility. Continued maintenance of the rural/suburban highway system should be left to the States. A

long term Federal role in their maintenance, however, may be necessary.

The Highway Trust Fund, which as of April 30, 1990, had a balance of $17.7 billion, was established to finance the nation-wide system of streets and highways, one of the most important public investments in the United States. UPS opposes the imposition of new user fees to finance the highway systems when funds that are already earmarked for that purpose are being diverted elsewhere.

The trucking industry has long maintained that each class of motor vehicle should pay its fair share of the highway cost based on traditional incremental highway cost allocation approaches. Highway costs should more directly represent use. Much of the current cost allocation studies at the surface mode are based on an outdated methodology known as the AASHTO Road Test conducted during the 1950s. It is imperative that proper contemporary models be developed that more accurately reflect the current real world costs among today's highway users.

One of the most effective efforts that can be made to enhance the safety of truck operations is to strengthen the Federal-State partnership that exists under the Motor Carrier Safety Assistance Program. UPS supports increased enforcement in safety regulations. We invite close inspection of our operations; however, we caution that problems may be encountered where motor carriers are subject to improper interpretation of regulations.

In the area of hazardous materials, the need for uniformity among States and localities is critical. The movement of small quantities of hazardous material in UPS vehicles have placed serious constraints on our operations through tunnels in certain metropolitan areas. We are being besieged with varying rules and regulations on this subject.

In summary, we are at a crossroad in our Nation's transportation history. Our economic survival rests on the willingness of the public and private sectors to work together to develop a national transportation program that takes into account the changing structure of the transportation industry, that considers America's transportation needs into the 21st century, and addresses the financing issues with creative and equitable solutions.

Many avenues are open to us. Let's choose the next path carefully. Thank you. I would be pleased to attempt to respond to your questions.

Senator DURENBERGER. Thank you, Doug, very much.

Russ Thompson.

STATEMENT OF RUSSELL THOMPSON, DIRECTOR OF TRANSPORTATION, CENEX/LAND-O-LAKES AGRICULTURAL SERVICES

Mr. THOMPSON. Senator Symms, Senator Durenberger, Mr. Woods, thank you for the opportunity to be here today.

International competitiveness and balance of trade are two issues we think of daily. Agriculture is America's single largest export. U.S. agriculture exports in 1989 represented $40 billion, or 11 percent of total U.S. exports, yet our lack of a consistent multi-modal transportation plan and policy penalizes agriculture and rural America.

America is the largest exporter of farm products in the world. One of every three acres is grown for export. Yet our transportation system makes it harder than ever to get that crop to market. Agriculture is freight-intensive. Agriculture is remote, particularly dependent upon transportation. Transportation is a large percentage of ultimate product cost. Lastly, agriculture products are extremely heavy, which increase market access costs.

We are penalizing productivity. Technology has enabled American farmers to be the most productive in the world, yet getting that product to market cost-effectively is a stumbling block. We are penalizing productivity. How? Because a portion of growth funding is based on population density and economies of scale. We are penalizing the sector that contributes the most to our exports. We are increasing our demands on the rural transportation system at a time when diminishing rural populations trigger reduced rural funding for that critical system. In short, the breadbasket of the world is pricing itself out of existence.

Although more money is the most often proposed solution to the problem, I'm here to suggest that there are ways to work smarter. One, develop an integrated transportation plan and policy. Two, make transportation regulations more uniform from State to State. Three, realize that by allowing rural transportation to continually grow more expensive, we are further concentrating population in urban centers, which already have more than their share of social problems. Lastly, at a time when we are able to put men on the moon, we are not broadening our vision to properly manage our transportation resources. This is more than an embarrassment; it's like playing Russian roulette with our very future.

Solutions? Here are five of them. Develop a comprehensive transportation plan and policy. I maintain that we lack a comprehensive transportation plan and policy. The Skinner report is a euphemism for a transportation policy. It's thin on solutions, especially in regard to our more sparsely populated rural areas. A great reliance on local revenues, user fees, and private capital does not make sense in these areas. Economies of scale continue to penalize our most productive industry, which is agriculture.

Farmers now represent only 2 percent of our population, yet agriculture accounts for 17 percent of our Gross National Product and 11 percent of our exports. In 1987 alone, 38,500 American farms went out of business. This attrition will continue, and as fewer but larger farms produce more of our food, the conclusions of the Skinner report fail to adequately address our agribusiness opportunities and challenges.

Secondly, a transportation plan and policy must consider integration. Look at the big picture. The Skinner report identifies shortcomings but offers no vision, especially on potential funding. It's like making a to-do list but never getting out of bed in the morning. Deregulation is not allocating transportation resources effectively in rural areas. A wheat farmer in North Dakota many times trucks a grain all the way to the Pacific Northwest because it's up to 20 percent cheaper than loading it into a rail car, or he's lost his rail service and has no choice. This reflects a lack of system integration.

What's the cause of our current disjointed policy? Special interests/politics versus needs-based thinking. The lack of accountable management. The Government should have to operate the same way business does—make a plan, project a budget, and then stick to it. The Federal Government has abdicated responsibility for a rural transportation plan and policy by making it every man for himself.

I favor a transportation plan and policy that has as one of its aims the assurance of safe, efficient, dependable and competitive transportation services for rural America. As such, this is not happening. Secretary Skinner says in his report that we need to focus our investment dollars on the areas with the highest payback. That easily could preclude the rural transportation infrastructure.

View rural transportation as a utility versus every man for himself. The present system rewards critical mass, not productivity. While fewer farmers produce more goods, their effective contributions to America's competitiveness are seriously hampered because we are falling behind in giving them the transportation linkage they need. I find irony in the Soviets' push to modernize its transportation infrastructure at a time when we abdicate responsibility for ours. The Soviets say it will take more than a decade to remedy the transportation weaknesses responsible for bottlenecks and economic disruption. The main reason we retain our competitive edge is our economic stability and our rural transportation infrastructure.

Avoid population bias. User fees may make sense in densely population California, but the Federal funding formula rewards heavily traveled roads. Agricultural commodities are heavy. For longer distance movement, it would make most sense to ship them by rail or barge, yet because rural areas have so few transportation options, many commodities go by truck. Add to this the impact of the freeze-thaw cycles of northern climates which exact their own toll on the transportation infrastructure, and you've got a double whammy.

The upper Midwest is at the end of the line. It's at the northern end of the rivers and the far end of the Great Lakes, so we are more dependent upon transportation and pay more for it.

I was asked to address how transportation users make trade-offs between different modes. Across most of our free territory, there are no options. Look at the airline industry which has been deregulated for the longest time. It's been great for reducing rates on heavily traveled routes, but the flip side is that CENEX/Land-O-Lakes pays double and triple airfares simply to do business in our trade area.

For example, I can fly from Minneapolis to London for less than flying almost anywhere in our trade area. A few examples: Chicago, Illinois, $138; Minneapolis to Orlando, Florida, $249; Minneapolis to London, England, $558; Minneapolis to Pasco, Washington, where we have a truck terminal, $800; Minneapolis to Billings, Montana, which is the heart of our trade area, $820; and Minneapolis to Williston, North Dakota, $864.

You can't afford to do business in our own trade territory, or you simply can't get there from here. When I need to do business with

our transportation terminal in Billings, Montana, I either pay $800, I consider driving for two days, or I just don't go.

Regulate smarter, not more. We must have uniformity from State to State. Currently, we have a myriad of weight, length, safety, licensing, and bridge regulations established by each State. Example: Idaho and Montana allow triples, yet Minnesota outlaws them. Each State we go into requires a different formula for fuel tax reporting.

What is the common denominator for a truck to get from the West Coast to the East Coast? We've got to establish one. I see Government substituting regulatory activity for vision. Instead of painting a big picture, it generates a flurry of paperwork. Example: To get a truck from Aberdeen, South Dakota, to Pennsylvania, we have to talk to 15 different people to obtain proper permits, yet we call it a Federal highway system. As I said earlier, weights and bridge laws are so erratic that it is difficult to use the same rig from one State to another.

The Applegate bill, H.R. 2584, pending in the House would require CENEX/Land-O-Lakes to file notice of intent to haul hazardous substances. That act alone stands to cost CENEX/Land-O-Lakes $7 million. I understand the Senate has grave concerns over this proposed legislation and well it should have. Imagine an 11,000-gallon tanker leaving our refinery. It would have to file paperwork for that load. Then it drops the load at the first jobber. That jobber, in turn, has to file paperwork for each 500-gallon drop to its farm customers. This shows an absence of cost-benefit thinking. What have we gained with this new layer of bureaucracy? If it will cost CENEX/Land-O-Lakes $7 million, what will it cost the consumer?

In summary then, the deficiencies I see are, one, we have no comprehensive transportation plan and policy. Secondly, politics, rather than needs, often dictate transportation policy, resulting in a fragmented system. Thirdly, the result is no synergy among transportation modes. Fourthly, sparsely population areas which contribute disproportionately to our exports are penalized for their productivity. Fifthly, the high cost of rural transportation has polarized population distribution. We will not solve any of our urban social problems by encouraging further migration. And lastly, the lack of accountable management by the Government.

Is rural transportation an economic variable, or is it also a utility? If it costs us four times normal rates to serve Whitewater, Montana, you are effectively shutting down that region economically. By abdicating instead of developing a comprehensive transportation plan and policy, we are choking the source of our biggest export—agriculture.

In conclusion, I ask for a stronger coordinating Federal role, continued local discretion, and lastly, that you reconsider your funding formulas. Thank you.

Senator DURENBERGER. Thank you for a terrific statement.

Steve, do you have any questions?

Senator SYMMS. No questions. I appreciate what you said, Mr. Smith, and if I understood what Dr. Schuh said, he said that the energy tax in the deficit reduction would be negative on our com-

petitiveness, but he wasn't talking about a transportation tax. I think that's what he said.

I appreciate all your statements, and there's a lot of food for thought there.

Senator DURENBERGER. Thank you, gentlemen, very much.

Our final panel is Michael Ehrlichmann, Chair of the Regional Transit Board; Donn Osmon, Group Vice President of the Traffic and Safety Products Group with the 3M Company; and Gene Ofstead, Assistant Commissioner for Technical Services at the Minnesota Department of Transportation.

Gentlemen, I appreciate very much your being here, and I know you appreciated the quality of the statements that have preceded you. I think this has been a terrific hearing, and I want to thank you in advance not only for being here but for the time that you've spent in preparing your statements, your commitment to the problem, and your expressed willingness to help us over the next year wrestle with this issue and broaden out the approach to transportation policy in the highway reauthorization.

So with that, we'll begin with Michael Ehrlichmann.

STATEMENT OF MICHAEL EHRLICHMANN, CHAIR, REGIONAL TRANSIT BOARD

Mr. EHRLICHMANN. Thank you, Senator Durenberger. I appreciate this opportunity to take part in today's hearing.

As Chair of the Regional Transit Board, the RTB, I come before you as a representative of transit for the Minneapolis-St. Paul metro area. The RTB is that metropolitan government agency that's responsible for planning and financing new and existing transit services for 2.3 million Minnesotans.

We've entered a new era in transit with challenges that we've never experienced before. Two major national concerns have forced those of us responsible for providing the transit services to refocus our efforts. Congestion on our streets and highways is increasing at a rate of 4 percent each year and 6 percent at intersections. Land available for new or expanded roadways is scarce, and costs for construction and maintenance are skyrocketing. Zero and one-car families are disappearing.

In the past, transit agencies operated much like utilities. We offered transit services; those who took it, fine, those who chose their car was fine. Times have changed. With gridlock clearly staring us in the face, we in transit for the first time must compete with the automobile. To get people out of their cars, we must provide a multi-modal system that meets the needs and expectations of the public, a system competitive both in terms of convenience and economics, and like the auto industry, we must market that system.

The second grave national concern which has reshaped our thinking is the environment. Just this year, we have heard a consortium of 300 respected scientists from around the world confirm what many of us have feared—global warming was identified as the number one threat to the planet earth. The greatest offender of global warming is the United States, and further, the greatest contributor to global warming is fuel emissions. The warning signs have arrived and are changing the role of transit. Mass transit

isn't just a mere transportation alternative. In our automobile-based American society, mass transit is now a necessity, a way of prolonging the life of our global environment.

The smogless Twin Cities you see today with an increasing population, with a healthy economy, a hot bed of business and industry growth that creates jobs, is being threatened by gridlock traffic, reduced air quality, and increasing risk to public safety due to most traveling on crowded roadways. The quality of life enjoyed here is in danger for these reasons. Now more than ever public transit is important to the Twin Cities metro area.

Transit must have more Federal Government support. Transit infrastructure and operations must receive the same priority as the interstate system once did. Transit agencies like the RTB throughout this Nation are working to preserve the livability of the metro areas. The RTB and the local taxpaying public here in the State are doing their fair share. I know I share this with my colleagues throughout the country, and that's the feeling that the Federal Government isn't. Nor are we receiving the kind of aggressive leadership from the Administration that we need. It's time for the Federal Government to make transit funds as readily available as highway funds.

Locally, the RTB is aggressively finding and using transit planning innovations in order to meet today's needs and transit demands. We're developing a multi-modal system which includes light rail transit, bus routes, circulators, dial-a-rides, ride-sharing, et cetera, but more of our sums of money, however, are spent financing these projects. The RTB conducts research demonstration models to prove or disprove that the investment is worthwhile.

The RTB conducts extensive travel demand management studies to change and reduce one-person car trips. Right now, we have a project underway with one of our highest generating traffic sources, that's the University of Minnesota campus. Travel mode problems and corrective strategies are being identified. Among the possible answers being examined are preferential parking incentives for carpools, discounts on transit for students, designated drop-off points on campus for carpooling students and faculty. The close association the RTB has built with university officials has been fundamental in our success with this program.

The RTB is currently studying an emerging travel pattern called the reverse commute. Reverse commute is, of course, the opposite of the traditional commute of driving from the suburbs to the city to get to work. Most people are urban dwellers who exodus from downtown areas for suburban employment sites. More and more of this is happening. The RTB is developing ways of making it more attractive for these reverse commuters to take transit. We're doing so by focusing on some of our best customers—the transit dependent.

Historically, transit dependent people live in urban areas and take transit because they cannot afford to own their own cars. We're attempting to pinpoint urban transit dependent populations in clusters of suburban employment sites that represent a large and growing number of jobs. There are now more than 30 reverse commute clusters in our program, and the RTB needs to create more, effectively linking transit dependent neighborhoods with sub-

urban employers. The RTB believes that there are some promising implications, specifically a whole new dimension of employment opportunities and economic growth.

The RTB continues to assist local units of government in our quest to publicize, promote and expand community-based transit services. The Minnesota legislature enabled the municipality to take this initiative, applying their own transit services. These suburban area systems are vital in either directly transporting people to the metropolitan area or working as commuters to other suburban systems.

Finally, in a State that was built by railroads, the RTB is bringing Minnesota full circle by promoting light rail transit. It's an important, essential component in the metropolitan area's regional transit system. The project has painstakingly been planned over the past two decades. It's a prominent legislative issue. The news media spotlight on light rail transit encourages greater awareness on the importance of transit to Minnesota's future. Once light rail transit is in place, we expect regional bus transit will likely experience a boom, as LRT's proven ability elsewhere in the country will encourage the public to reexamine their transportation methods. Subsequently, many of those people will be transformed into transit passengers.

And there are many more efforts underway. More park-and-ride facilities, metered ramps, high occupancy vehicle lanes, streamlining the operations of metro mobility, introduction of new state-of-the-art quick-lift buses throughout our bus service in the Twin Cities area, thanks to the aggressive leadership of our legislators and Senators, who were able to take advantage of the Americans with Disabilities Act, and we now have introduced an additional 120 accessible buses. I would like to thank Senator Durenberger for his leadership as the chief minority co-sponsor of that bill.

Increasing transit efficiency and transit awareness have been the most critical influences that will entice people into taking transit. But now there is a new influence hanging over our heads, and that's the environment. If we continue the proliferation of pollutants from automobiles and the resulting degradation of our atmosphere, our future generation is in jeopardy.

In closing, allow me to share our vision of the future. Transit is competitive with the automobile. Traffic congestion, pollution, and even the previously eccentric notion of global warming is forcing more Americans to become transit passengers. Minnesota is among the Nation's leaders in this concern. Right now, we have a strong coalition on State, regional and local governments and highway, business and labor concerns that endorses a multi-modal transportation system in the metro area.

The Regional Transit Board is continuously working to develop a regional transit system that meets the public's demand for convenience, comfort, reliability and cost. The RTB wants to maintain a transit system that the population will not outgrow. These are the goals, and these are what we believe are going to be necessary to maintain our metro area and our way of life. However, without stronger commitment from the Federal Government, these efforts are jeopardized.

We would ask that whatever transportation plan is adopted by Congress and the Administration recognize these valid concerns for our future. Please help us preserve our metro area, the one that you see now. Thank you.

Senator DURENBERGER. Thank you, Michael, very much.

Donn Osmon.

STATEMENT OF DONN OSMON, GROUP VICE PRESIDENT, TRAFFIC AND PERSONAL SAFETY PRODUCTS GROUP, 3M CORP.

Mr. OSMON. Thank you very much, Senator.

I'm going to take a little different tact here today, primarily because just a few miles from here is what many people in the world consider the finest private research and development center for traffic and traffic management issues, and I'd like to share with you some of the things that are going on that we believe are going to provide alternatives to some of the things you've heard today.

Let me say in the beginning, though, that we believe that the overall direction of transportation policy in the United States must center on continued funding for the construction and maintenance of an efficient highway system. However, in the short term, that is, the next five to 10 years, we think the issue will be how do we get better usage out of what we already have, and it's a safety issue, and that's particularly true for older drivers. Older drivers now constitute about 12 percent of our people. So my remarks will be in those areas.

First, let me say that on urban roads, the single greatest thing we can do to improve traffic flow is to improve our traffic signalization. Synchronized signal systems have been around for a long time. The issue is with the information that we communicate immediately to those traffic signals, we can make real time judgments in whether they're green or red, how fast people should go, and how long they stand.

We intend within a very short period of time to be introducing upgraded, highly intelligent, real time systems that are going to give traffic management people the ability to intimately understand what's going on on their highways so they can make the appropriate changes. From that, we will go immediately to interstate highway systems, where, again, real time information on axles, classifications of vehicles, speed, all of these things, can be instantly transmitted so we can make better use of the highway system we have.

Secondly, on urban roads today, we do have congestion. One of the greatest problems we have is moving emergency vehicles, that is, police, fire and ambulances, because they have the same problems, of course, that other commuters do. We have introduced new systems which can automatically give green lights to those types of vehicles so that we can have emergency systems that get emergency vehicles to where they have to be, a fire or a hospital. The problem we have here, Senator, is that this is probably one of the most effective and lowest cost traffic management systems; however, today it is excluded from Federal funding, which tends to make me think we need to think about how we use technology and give flexi-

bility to letting technology come in to use these low cost, highly efficient systems.

A third thing that we would like to comment on today is that emergent tollways are coming, and they are, and not only are tollways coming, but so are toll bridges and all types of alternative plans. One of the problems has always been that people have to slow down to pay the toll, and that creates traffic back-up. In August of this year, we will be introducing at the new Denver tollway, the one that's going out to their new airport, a new system called ABI, and what that is is that each automobile on that toll road will have a small plastic card. There will be special tolls you can drive through that toll road at normal highway speeds, we'll immediately read it, and this will probably come through on your American Express card or something.

Now, what does that do? If you look down the road, it means that we're going to be able to use automatic identification systems not only for tollways and bridges and stop all the congestion, but what it means is we're going to be able to classify all kinds of vehicles, gather information, not stop any kind of vehicles while we gather this so we can measure it. So here again this technology coming into place that can focus on getting more use at a very low cost out of our existing system.

Finally, I'd like to say something about safety, and particularly I want to talk about the older drivers, because older drivers are becoming a major part of the United States driving system. What is particularly interesting about older drivers is that in 1990 for the first time most older drivers live outside of center cities. Most older drivers live in the suburbs and in the small towns. A tremendous change in the demographics.

One of the problems older drivers have is that their vision deteriorates, that is, their night vision. For each 13 years of age, the amount of light we need to see decreases by one-half, so, consequently, the last highway bill instructed the Highway Research Board to conduct a study on what was needed so that older drivers could see at night. What they recommended was brighter signs and brighter pavement markings.

To that end, what we are doing is this year we will be introducing materials for signage which is 400 percent brighter than anything that has ever been seen in the world as it relates to signage. It is very interesting to note that there's a new program that was announced yesterday in Minnesota for railroad crossings that will use this material, and we believe that for the older driver these signs with this brighter light and pavement markings is going to allow them to travel at night, particularly in the northern States, because here in the north what happens is that whether a person chooses to drive at night or not, you have to because you go to work in the dark, you come home in the dark, you have appointments, and so this is an area that will contribute greatly to safety.

Secondly, at our research center we have determined that older drivers have great trouble during the day in seeing traffic signals because of the contrast. They're red and green and yellow, but older drivers don't see that. I know it's perfectly simple for 25-year-olds, but when you're 60, they don't work as well, and a lot of our accidents are people missing them. We will be and are doing a lot

of work and hope to introduce new technology that will greatly provide increased visibility to traffic signals in the daytime, so that older drivers are going to continue to share the ability to drive. They consider it their right to drive. I think in the transportation policy, we have to make it safe for them.

So in conclusion, we very much appreciate the efforts that both of you are taking to understand the multitude of transportation issues, particularly here in the Midwest. We all know what the urban congestion on the coasts are; we have different problems here. We think, in summary, that there are two issues to be concerned with.

One, using available and new technology in a greater capacity on the roads we have. It is truly a vision. And number two, to use the technology to provide safer standards of transport for older drivers, which are now about 12 percent. Thank you very much.

Senator DURENBERGER. Thank you, Donn, very much.

Gene Ofstead.

Mr. OFSTEAD. Mr. Chairman, Senator, do you need me to forego this to get to your next meeting?

Senator DURENBERGER. No, you can take your time.

Mr. OFSTEAD. Thank you very much.

STATEMENT OF GENE OFSTEAD, ASSISTANT COMMISSIONER, MINNESOTA DEPARTMENT OF TRANSPORTATION

Mr. OFSTEAD. This statement applies to an engineer, and I say that simply because one of the issues the staff recommended we bring up is standards. First of all, we're in an era of incredibly dynamic change, and what is commonly referred to as standards are probably more fluid than they've ever been, and what we are trying to do is solidify them. The following example areas are meant to indicate the changing expectations and changing needs which are drawing attention to certain standards.

Public acceptance of incredible deaths and injuries on highways appears to be coming under public scrutiny which will increasingly demand a more effective response in order to reduce the high toll in deaths and injuries, somewhere around 45,000 a year. The practices, standards and policies that are currently used to address safety problems must be significantly altered if we are to make major inroads in the highway death toll.

Goods movement by trucks now account for up to 30 percent of the travel on many rural interstate highways. Due to the constant change in laws and policies regarding truck size and weight, highways are being expected to accommodate conditions far more severe than was allowed for in the original design. In Minnesota, we have experienced progressive increases in truck length and truck weight over the past 50 years. Other States have had similar experiences.

An obvious conclusion is that further increases in truck size and weight are likely. However, standards must be increased to accommodate turning movements, other maneuvering, and the increased weights and volumes of heavy commercial vehicles on the highways.

When we see the incredible breakthroughs that Japan makes, we realize that it's due in part to the fact that private industry, academia and government can collaborate and do collaborate to compete with the world, rather than compete against each other. We need a system that encourages and stimulates innovation from the private sector where much needed ideas are.

Last of all, in the whole area of Government research in this area of transportation, we know that Government spending for research runs somewhere around 0.1 percent of the capital investment. We're low by a factor of anywhere from 20 to 50 percent when you look at comparable technical industries. We simply are not going to make the breakthroughs if we don't get into the research act. Thank you.

Senator DURENBERGER. Thank you all.

Steve, do you have any comments?

Senator SYMMS. Well, just that I would certainly like to publicly thank you, Senator Durenberger, for always having your eye on the future, and it's obvious from the witnesses who are here today that they do, too, and I think it's important for all of us to get to various places in the country where we can hear directly from the people.

I appreciate the opportunity to be here, and I am glad to be a part of this subcommittee and part of the full committee. I hope that we will be able, as a result of this hearing and others around the country, to come up with a transportation policy that will continue to address some of these issues that have been talked about here and move forward, because I think we have a big job ahead of us, and it's important.

I would like ato say that on the other side of it that we haven't done all that horribly, either. It's pretty easy to stand around or sit around and look at all the bad sides of it, but we have developed the best transportation system in a very large country, and we still are the most efficient producers and most competitive people on earth, and the American workers are more competitive than our Japanese counterparts and our Western European counterparts, and that's why our exports are growing all the time. So I think this is of critical importance for the future, and I share the concern of all the witnesses on that. We cannot neglect this transportation policy in this country at all, so I do think we have to build on a sound basis that we have now.

I particularly appreciated your statement, Mr. Osmon, about how much growth there has been and how it's surprising when you see how many more cars there are and how much more people are driving and all that that we do as well as we do.

So I just thank you very much, David. I know Chairman Burdick, I'll say again, personally wanted to send his regrets that he couldn't be here, but he will certainly look over everyone's statements and testimony, and it will be part of our research effort.

Senator DURENBERGER. Dr. Wood.

Mr. WOOD. I would like to thank you, Senator Durenberger, for the opportunity to chair with both you and Senator Symms today, and I'd like to thank also all of the participant's in today's program. From my own point of view, the things that you're zeroing on, environmental concerns, flexibility in spending, and perhaps

what the limits of that flexibility should be, uniform regulations across the Nation for hazardous materials, support for rural transportation and the maintenance of our highway systems are things that the Federal Highway Administration is vitally interested in. I certainly share your concerns. Thank you very, very much.

Senator DURENBERGER. Thank you for being here.

Thank you everyone for your participation today. The hearing is adjourned.

[Whereupon, at 11:57 a.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

STATEMENT OF LIONEL H. WOOD

ACTING REGIONAL ADMINISTRATOR
REGION 5
FEDERAL HIGHWAY ADMINISTRATION

HEARING BEFORE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

CONCERNING REAUTHORIZATION OF THE FEDERAL-AID HIGHWAY PROGRAM
AND RELATED SURFACE TRANSPORTATION ISSUES

FIELD HEARING IN MINNEAPOLIS, MINNESOTA

July 10, 1990

Mr. Chairman and Members of the Subcommittee:

I am Lionel H. Wood, Acting Regional Administrator for Region 5 of the Federal Highway Administration in Homewood, Illinois. I am very pleased to be here today to discuss the future of the Federal-aid highway program and other related issues mentioned in your letter of invitation. I would like to start by addressing the National Transportation Policy, the first since 1978.

Secretary Skinner initiated the National Transportation Policy development process a year ago, realizing that it was time to take a new look at transportation policies. The Department went out to the American people in more than 100 public meetings. In essence, what we heard was a call for an improved transportation system -- a system with greater capacity and a sound financial base; a system that supports our national goals in

the areas of safety, national security, environmental protection, and accessibility for all.

The National Transportation Policy provides a strategic framework for that national investment of time, of money, and of commitment. It shapes the movement of passengers and goods in the 1990's and beyond. The Policy uses a common sense approach of focusing our limited resources on systems of national significance and promoting national priorities, such as improving mobility and the efficient movement of goods, providing jobs, and improving the quality of life for all Americans. The Policy is inter-modal in nature-- driven by the freedom of the marketplace and focused on moving America toward a transportation system that promotes U.S. competitiveness both at home and abroad.

The policy has six major themes: one, maintaining and expanding the existing transportation system; two, providing a sound financial base for transportation programs; three, maintaining a strong and competitive transportation industry; four, ensuring public safety and national security; five, enhancing the environment and the quality of life for our citizens; and six, advancing transportation technology into the 21st century.

Among the 169 guidelines and 65 legislative, regulatory and program objectives in the National Transportation Policy are long-

term goals that will help to preserve transportation facilities currently in place; expand essential capacity; close the gaps in the transportation network; promote effective connections between rural and urban areas, between ports and inland points, and between modes; maintain the integrity of the trust funds, and ensure that all transportation user fees are spent for their intended purpose -- to improve transportation; and promote sounder management of our transportation systems.

The Policy is the basis for preparing our reauthorization proposal for the highway, transit and highway safety programs and other near-term legislative initiatives. I would like to turn now specifically to the Federal-aid highway program.

The national highway network and the Federal-aid highway program have contributed enormously to the economic growth and social development of this Nation. This outstanding system of roadways is the major provider of surface transportation service for the United States. Any significant deterioration in essential portions of the system could impair its ability to provide the Nation with adequate highway transportation.

For more than 30 years, the Interstate System has been the centerpiece of the Federally-assisted, State-administered, Federal-aid highway program. Now, with that system nearing completion, important decisions must be made about the structure

of future highway programs and the future role of the Federal Government in the Federal-aid highway program. As the nation moves into the 1990's, a number of challenges must be faced for our entire transportation system. The future of highway transportation will be shaped by the response to these challenges.

In developing the National Transportation Policy we conducted numerous analyses in an attempt to determine how to reshape and redirect the Federal-aid highway program to conform and enhance a changing future. These efforts included an examination of the future role of Federal government with respect to highways. If the Nation is to have the transportation system we need for the future, we must recognize new and different roles played by Federal, State, and local governments and incorporate that realignment within government transportation programs. The Federal Government must concentrate more of its resources on facilities and projects that advance the performance of the national transportation system. The majority of these resources should be directed toward preservation of our highest order systems, those that serve interstate commerce and provide for the national defense, and to research and technology investments that will help ensure efficient and safe transportation.

Where the Federal Government is funding, operating, and regulating areas that are not necessary or appropriate, that involvement should be reassigned or eliminated. We know that

State and local governments have already assumed greater responsibility in transportation. This can and should continue.

At the same time, we must also ensure that there is a sound financial base to support our transportation system. The Federal government, in partnership with State and local governments, and the private sector, must see that the financial means are available to invest in America's future. We seek to encourage a greater role on the part of the States, localities, and the private sector in the preservation and development of transportation infrastructure whose primary importance is statewide or regional.

The bridge program should continue to be a major Federal emphasis area. The purpose would be to provide special Federal-aid funds to assist the States in rehabilitating or replacing bridges. Estimates of highway and bridge needs from all funding sources range from $23.2 billion per year (as reported in FHWA needs report, based on 1987 dollars) -- to maintain our highway system at today's overall conditions -- to $39.4 billion per year -- to maintain condition and add new capacity where feasible. Needs will always exceed available revenues. The goal is to make the best use of available revenues by targeting funding to the most critical deficiencies.

To help meet the needs we face, the National Transportation Policy urges greater flexibility for state and local governments

to raise revenues -- for example, allowing greater use of toll financing for Federal-aid highways. We also want to stimulate private investment and to encourage joint public-private financing of facilities where appropriate. Accommodating increasing traffic demands and maintaining a reasonable performance level of the transportation system will require continuing and substantial infusions of private capital. In this context, we are considering expanding the ability to use private donations, including cash and right-of-way, for the State's share of a project; and allowing private toll roads to be eligible for Federal-aid funds, provided that such facilities could be incorporated into the Federal-State grant- in-aid process.

Innovation and new technological advances are at the center of public and private efforts to prepare for meeting tomorrow's transportation requirements. Although technology alone cannot solve our transportation problems, it can make a significant contribution in combination with sound management of capital and human resources. There is considerable potential for new forms of transportation or advances in today's technology to solve many of our transportation problems. We must be committed to launching new transportation research and development initiatives.

We are considering devoting additional resources to research and development, including programs to improve highway safety through human factors research, and seed money for private sector

or State and local research on new transportation technologies, such as intelligent vehicle/highway systems (IVHS). The IVHS technology represents the marriage of the vehicle, the driver, and the highway into a much more effective and efficient integrated system. We are working with Mobility 2000, which has become the national focus group for developing consensus on a program description of IVHS. The recent conference held in Orlando, Florida, was successful in setting up a preliminary institutional framework and plan for a joint public-private sector effort to accelerate the implementation of IVHS.

The research and technology program under consideration will focus on long term pavement performance. We need to preserve the Nation's highway system into the 21st century through research and development in pavements and structural technology and through the continuation of the 20 year long-term pavement performance program initiated under the Strategic Highway Research Program (SHRP) in 1987.

We intend to continue basic highway research in the areas of safety, motor carrier safety, pavements and structures, right-of-way, environmental protection, and policy and planning. In addition, we will focus on technology transfer to put research results into practice quickly and widely. Substantial technology transfer can be accomplished through training. The University Transportation Centers Program would be continued in a effort to

attract the Nation's best talent to transportation research, to prepare future professionals for transportation as a discipline, and to develop new strategies and concepts to effectively address existing and future transportation issues.

The Department of Transportation is also involved in a promising transportation technology, magnetic levitation transportation system (maglev). The Department is the Federal Department responsible for the safety of maglev systems, and has initiated a major research and testing effort to ensure the safety of maglev systems in our nation. For example, the State of Florida is in the process of building a maglev system between Orlando Airport and the International Drive area, approximately 13 miles away. This line could begin construction next year and may become the world's first commercial maglev system. Research on the Transrapid System proposed for the Florida project is underway and is being accelerated to ensure that the resolution of concerns with safety do not slow implementation. This work will evaluate the adequacy of the existing German standards covering this system, the compliance of the system with these standards, and the need for additional standards for operation in the United States. The Department is also assisting the Florida officials and developers in exploring the environmental issues related to the proposed Florida maglev project, and will serve as the lead agency for preparation of any Federally required environmental documentation.

The Department is exploring the use of existing right-of-way, such as the Interstate Highway System and freight rail lines, for maglev systems. Preliminary assessments have indicated that the location of maglev systems in Interstate highway right-of-way may be technically feasible in certain corridors where not otherwise constrained by horizontal curvature limitations. We are continuing to explore this issue and will work with interested parties to develop mechanisms to expedite the requisite approvals where highway segments can be used in a project. The Department has asked for a budget increase of 17 percent in fiscal year 1991 for research and development, including areas such as maglev as an alternative transportation mode.

It is clear that the demand for mobility by the American people will continue to grow, and our highway and roadway systems will continue to play a significant role in providing for that mobility. Our Department will work closely with Congress in preparing legislation that will reshape the Federal-aid highway program so it can respond more quickly and fully to increasing and changing demands. There is much to do before we complete all the details necessary for a comprehensive bill. We are interested, as you are, in developing apportionment formulas that will treat all the States fairly and equitably.

In your letter of invitation you expressed interest in the transportation needs of States with large geographic areas and agriculture-based economies. As we all know, farm-to-market

transportation is critical to the national economy. An efficient and well maintained rural road system is essential for the movement of goods and services to the farm, and products such as grain, produce, milk, and timber to the marketplace. If any part of the transportation link with rural America is too slow or too expensive, American agricultural products and non-agricultural products manufactured in rural areas will lose market share to foreign products. Thus, deterioration in rural transportation systems will have an adverse effect on the nation's trade deficit.

Transportation needs in urban and rural areas are different, indicative of the unique problems and opportunities available in each. In rural areas, for example, there are major concerns for access to keep the more isolated rural communities in social and economic contact with the rest of the country. There is concern with the replacement of aging bridges, mostly off-system low volume bridges, and maintaining pavement conditions on rural roads. Rural bridges are generally older. According to the FHWA's National Bridge Inventory, as of December 31, 1988, the average age of rural bridges was 36.6 years. There is also concern for the special needs of highways on Federal lands.

In many ways, the issues and specific problems of rural and urban America seem to be separate, but in another respect, they are the same -- the need for safe, efficient, and reliable transportation options to provide access and ensure future mobility for a growing American population and changing economy.

One of the National Transportation Policy's goals is to encourage State, local and private efforts to preserve and enhance efficient transportation service in rural areas lacking effective connections. We feel that the National Transportation Policy will assist in coordinating all available resources towards the achievement of this goal.

That concludes my prepared statement, I will be pleased to answer your questions at this time.

STATEMENT BEFORE THE
WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE
OF THE
U.S. SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE
RELATING TO
INTERGOVERNMENTAL ASPECTS OF FEDERAL
TRANSPORTATION POLICY

BY

LEONARD W. LEVINE, COMMISSIONER
MINNESOTA DEPARTMENT OF TRANSPORTATION

JULY 10, 1990

SENATOR DURENBERGER, DISTINGUISHED MEMBERS OF THE SUBCOMMITTEE, I AM LEONARD LEVINE, COMMISSIONER OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION. THANK YOU FOR PERMITTING ME TO APPEAR BEFORE YOUR SUBCOMMITTEE. I AM VERY PLEASED TO BE HERE.

IN MY REMARKS THIS MORNING I WILL OUTLINE THE PRIORITIES OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION FOR THE 1990'S AND BEYOND. I WILL THEN DISCUSS THE ROLES OF THE VARIOUS GOVERNMENTAL LEVELS AND THE PUBLIC AND PRIVATE SECTORS IN ACHIEVING THOSE PRIORITIES.

IN MANY WAYS, THE TRANSPORTATION CHALLENGES WE FACE IN MINNESOTA REFLECT NATIONAL CONCERNS. WE MUST ADDRESS THE PROBLEMS OF AN AGING INFRASTRUCTURE WITH LIMITED FINANCIAL RESOURCES. TRADITIONAL REVENUE SOURCES ARE NO LONGER ADEQUATE TO MEET THE MANY COMPETING DEMANDS. WE NEED TO EXPLORE AND DEVELOP NEW TRANSPORTATION TECHNOLOGIES IF MINNESOTA AND THE NATION ARE TO BE COMPETITIVE IN TODAY'S GLOBAL ECONOMY.

IN THE 1990'S THE MINNESOTA DEPARTMENT OF TRANSPORTATION (MN/DOT) WILL FOCUS ON MEETING THE MOST CRITICAL NEEDS OF THE TRAVELING PUBLIC. SPECIFIC TRANSPORTATION ISSUES WHICH HAVE BEEN IDENTIFIED AS TOP PRIORITIES FOR MINNESOTA INCLUDE:

- URBAN AND SUBURBAN CONGESTION
- HIGHWAY, BRIDGE AND RAILWAY SAFETY
- RURAL ACCESS
- ALTERNATIVE TRANSPORTATION FUNDING

AN INTEGRATED MULTI-MODAL APPROACH WILL BE NEEDED TO SOLVE OUR TRANSPORTATION PROBLEMS. IMPROVED MULTI-MODAL PLANNING, PROGRAMMING AND FUNDING APPROACHES WILL ALSO BE NEEDED.

IN ORDER TO FACILITATE INTERMODAL DECISION-MAKING MN/DOT HAS ESTABLISHED AN ORGANIZATIONAL STRUCTURE TO PROMOTE MULTI-MODAL PLANNING. UNDER THIS STRUCTURE, MODAL OFFICE DIRECTORS FOR TRANSIT, AERONAUTICS, HIGHWAY, RAIL AND WATERWAYS ALL REPORT TO THE ASSISTANT COMMISSIONER FOR PROGRAM MANAGEMENT. THIS ARRANGEMENT PROMOTES ON-GOING AND OPEN DISCUSSION OF INDIVIDUAL MODAL ISSUES AND MULTI-MODAL RELATIONSHIPS AND SOLUTIONS.

MN/DOT'S VIEW IS THAT AN EFFECTIVE SOLUTION TO THE NATION'S TRANSPORTATION DILEMMA MUST BE BASED ON A MULTI-MODAL "FAMILY OF VEHICLES" CONCEPT. THE "FAMILY OF VEHICLES" CONCEPT INCLUDES THE PRIVATE AUTO, VANS, BUSES, LIGHT RAIL AND SUPER SPEED RAIL.

IN THE TWIN CITIES METROPOLITAN AREA AN APPROPRIATE RESPONSE TO ADDRESS THE AREA'S NEEDS MIGHT INCLUDE IMPROVED BUS SERVICE, LIGHT RAIL AND HIGH OCCUPANCY VEHICLE (HOV) LANES. IN RURAL AREAS RAIL REHABILITATION, INCREASED HIGHWAY LOAD CARRYING CAPACITY AND DIAL-A-RIDE SERVICE MIGHT BEST ADDRESS TRANSPORTATION NEEDS.

MINNESOTA HAS BEEN A PIONEER IN MULTI-MODAL TRANSPORTATION SYSTEM MANAGEMENT. IN 1972 THE FORMER MINNESOTA DEPARTMENT OF HIGHWAYS INSTITUTED A STATE-OF-THE-ART FREEWAY MANAGEMENT SYSTEM ON I-35W, WHICH PROVIDES ACCESS TO THE MINNEAPOLIS CBD FROM THE POPULOUS SUBURBS TO THE SOUTH. SINCE THAT TIME SIMILAR TRAFFIC MANAGEMENT TECHNIQUES HAVE BEEN APPLIED TO OTHER PORTIONS OF THE METRO FREEWAY SYSTEM.

MINNESOTA'S MOST COMFREHENSIVE APPROACH TO FREEWAY SYSTEM MANAGEMENT IS BEING IMPLEMENTED ON I-394. THE I-394 CORRIDOR IS A RADIAL ROUTE EXTENDING FROM THE MINNEAPOLIS CBD TO WAYZATA, A DISTANCE OF ABOUT 11 MILES. THE I-394 TRANSPORTATION SYSTEM DESIGN CONCEPT CONSTITUTES AN INTEGRATED INTERMODAL APPROACH WHICH INCLUDES MANY TRANSPORTATION ELEMENTS FOCUSED ON MAXIMIZING CORRIDOR TRANSPORTATION EFFICIENCY AND SERVICE TO USERS.

TRAFFIC IS INCREASING 4 TO 10% ANNUALLY ON FREEWAYS IN THE MINNEAPOLIS-ST. PAUL (TWIN CITIES) METROPOLITAN AREA. THE RESPONSE MUST BE IMPROVED SYSTEM MANAGEMENT. EXTENSIVE NEW HIGHWAY CONSTRUCTION IS NOT FEASIBLE. MN/DOT IS PRESENTLY DEVELOPING THE NATION'S MOST COMPREHENSIVE TRAFFIC MANAGEMENT PROGRAM. RAMP METERING, TELEVISION CAMERAS MONITORING FREEWAY TRAFFIC, TRAFFIC ADVISORY RADIO, ACCIDENT INVESTIGATION SITES, EMERGENCY CALL BOXES AND

THE HIGHWAY HELPER PROGRAM ARE JUST A FEW OF OUR TRAFFIC MANAGEMENT INITIATIVES.

THE DOMINANT TRANSPORTATION ISSUE FACING GREATER MINNESOTA IN THE 1990'S WILL BE ACCESS TO MARKETS. TO FACILITATE MOVING AGRICULTURAL PRODUCTS IN A TIMELY, COST EFFECTIVE MANNER, MN/DOT HAS DEVELOPED A MARKET ARTERY PROGRAM. A MAJOR AIM OF THE PROGRAM IS TO REDUCE THE NUMBER OF WEIGHT RESTRICTED ROADS SERVING RURAL COMMUNITIES. WE WILL ALSO CONTINUE TO WORK TO BUILD AND EXPAND OUR PARTNERSHIP WITH LOCAL COMMUNITIES AND THE PRIVATE SECTOR IN PROVIDING RURAL TRANSIT SERVICES.

INNOVATIVE SOLUTIONS NEEDED

A PRIMARY FOCUS OF NEW FEDERAL SURFACE TRANSPORTATION LEGISLATION MUST BE THE DEVELOPMENT OF INNOVATIVE SOLUTIONS TO OUR TRANSPORTATION PROBLEMS. IN THE YEARS AHEAD, I AM HOPEFUL MINNESOTA WILL BECOME A NATIONAL LEADER IN THE DEVELOPMENT OF INNOVATIVE SOLUTIONS SUCH AS INTELLIGENT VEHICLE HIGHWAY SYSTEMS (IVHS) AND SUPER SPEED RAIL. RECENTLY, MN/DOT AND THE UNIVERSITY OF MINNESOTA CENTER FOR TRANSPORTATION STUDIES ANNOUNCED A JOINT VENTURE INTO THE DEVELOPMENT AND APPLICATION OF IVHS TECHNOLOGY CALLED "GUIDESTAR". GUIDESTAR WILL UTILIZE A COLLECTION OF REMOTE CAMERAS, TRAFFIC MANAGEMENT, DRIVER NAVIGATION, AND DATA COLLECTION EQUIPMENT TO IDENTIFY TRAFFIC "HOT SPOTS" AND DIRECT THE DRIVER TO ALTERNATE ROUTES. A REGION-WIDE COMMUNICATIONS NETWORK, CONNECTING AND MONITORING NEARLY 300 MILES OF ROADWAY, WILL BE IN PLACE BY 1995.

FEDERAL LEGISLATION, SUCH AS S. 2528, THE "INTERACTIVE HIGHWAY VEHICLE SYSTEM ACT OF 1990", IS NEEDED TO HELP INSURE THE TIMELY DEVELOPMENT OF COMPREHENSIVE, INTERACTIVE HIGHWAY VEHICLE SYSTEMS IN THE UNITED STATES. ANOTHER INNOVATIVE TECHNOLOGY, SUPER SPEED RAIL, PROMISES TO ALLEVIATE AIRPORT CONGESTION AND INCREASE INTER-CITY TRANSPORTATION EFFICIENCY IN CROWDED CORRIDORS.

ON FEBRUARY 21, I ANNOUNCED THAT THE TRANSPORTATION DEPARTMENT OF MINNESOTA, WISCONSIN, AND ILLINOIS HAVE AGREED TO CONDUCT A PRELIMINARY FEASIBILITY STUDY OF SUPER SPEED RAIL SERVICE BETWEEN THE TWIN CITIES, MILWAUKEE, AND CHICAGO. THE PURPOSE OF THIS STUDY IS TO DETERMINE IF THERE IS SUFFICIENT PUBLIC INTEREST IN UTILIZING SUPER SPEED TRAIN SERVICE. THE $250,000 FEASIBILITY STUDY WILL EXPLORE ALL SUPER SPEED TRAIN TECHNOLOGIES INCLUDING MAGNETIC LEVITATION (MAGLEV). PROJECTED RIDERSHIP, CAPITAL AND OPERATING COSTS, REVENUES, ECONOMIC IMPACTS AND FINANCING OPTIONS THAT ASSUME PRIVATE SECTOR INVOLVEMENT WILL ALSO BE ADDRESSED.

IN ADDITION TO THE TRI-STATE SUPER SPEED RAIL STUDY, MN/DOT WILL BE CONDUCTING AN IN-STATE STUDY OF SUPER SPEED RAIL SERVICE. COMMUNITY LEADERS, LEGISLATORS, AND TRANSPORTATION OFFICIALS FROM DULUTH, ST. CLOUD, MANKATO, AND ROCHESTER/WINONA MET ON MAY 29, IN ST. PAUL TO DISCUSS THIS PROPOSAL. AT THAT MEETING I INVITED THESE CITIES TO SUPPORT AND PARTICIPATE IN A STUDY OF SUPER SPEED RAIL SERVICE CONNECTING THEIR CITIES VIA MINNEAPOLIS-ST. PAUL.

THE RESULTS OF THE MEETING INDICATED OUTSTANDING SUPPORT FOR THIS PROPOSAL. THIS STUDY WILL BE COMPLETE IN APPROXIMATELY ONE YEAR AND IS INTENDED TO

ANSWER THE QUESTIONS OF PROJECTED RIDERSHIP AND REVENUE, ECONOMIC BENEFITS TO THE REGION, AND POTENTIAL FINANCING OPTIONS.

FEDERAL LEGISLATION, SUCH AS S. 2286, THE "MAGNETIC LEVITATION TRANSPORTATION ACT OF 1990," WHICH ENCOURAGES A COOPERATIVE PUBLIC-PRIVATE EFFORT IN MAGLEV DEVELOPMENT AND ESTABLISHES A NEW OFFICE OF HIGH SPEED GROUND TRANSPORTATION WITHIN THE FEDERAL RAILROAD ADMINISTRATION, IS NEEDED TO HELP INSURE THAT THIS INNOVATIVE TECHNOLOGY ACHIEVES ITS FULL POTENTIAL IN HELPING TO MEET AMERICA'S TRANSPORTATION NEEDS OF THE 1990'S AND BEYOND.

TRANSPORTATION SAFETY

ANOTHER MAJOR EMPHASIS OF NEW FEDERAL LEGISLATION MUST BE TRANSPORTATION SAFETY. MINNESOTA HAS BEEN A NATIONAL LEADER IN HIGHWAY SAFETY. DURING THE LAST THREE YEARS, MINNESOTA HAS HAD THE LOWEST TRAFFIC FATALITY RATE IN THE COUNTRY. IN SPITE OF THIS OUTSTANDING HIGHWAY SAFETY RECORD, GOVERNOR PERPICH HAS MADE IMPROVED TRANSPORTATION SAFETY A TOP PRIORITY FOR MINNESOTA. OUR GOAL IS TO CUT OUR LOW FATALITY FIGURE IN HALF BY THE TURN OF THE CENTURY. A MASSIVE, MULTI-FACETED STATEWIDE EFFORT WILL BE NEEDED TO ACHIEVE THIS GOAL, INCLUDING AN ANALYSIS OF SAFETY-RELATED LAWS, ENFORCEMENT PROCEDURES, ROAD SAFETY TECHNOLOGY, VEHICLE IMPROVEMENTS, DRIVER EDUCATION, AND INFRASTRUCTURE ENHANCEMENTS.

TO SUCCEED IN REALIZING OUR SAFETY OBJECTIVE WE KNEW THAT WIDESPREAD PUBLIC INVOLVEMENT WAS ABSOLUTELY ESSENTIAL. WE HAD TO GO FAR BEYOND ANYTHING WE HAD ATTEMPTED PREVIOUSLY AND WE NEEDED STATE LEGISLATORS OF BOTH POLITICAL PARTIES PARTICIPATING IN THE PROCESS. WE HAD TO EVALUATE OVERALL HIGHWAY

SAFETY...REGARDLESS OF JURISDICTIONAL LIMITATIONS. IT WAS NECESSARY TO SHAKE FREE FROM TRADITIONAL HIGHWAY FUNDING FORMULAS AND TO FIND WAYS TO GAIN SUPPORT FOR SAFETY IMPROVEMENTS ON LOW-VOLUME ROADS.

CITIZEN INPUT WAS OBTAINED THROUGH A SERIES OF PUBLIC TRANSPORTATION SAFETY FORUMS HELD LAST FALL. THESE FORUMS WERE LED BY LOCAL CITIZENS WHO VOLUNTEERED TO COORDINATE AND CHAIR LOCAL TASK FORCES. EVERYWHERE WE HELD A TRANSPORTATION SAFETY FORUM THERE WERE STANDING ROOM ONLY CROWDS. MORE THAN 2,000 MEN, WOMEN AND YOUNG PEOPLE SPOKE-OUT ABOUT THEIR SAFETY CONCERNS AND 700 PEOPLE PROVIDED ORAL OR WRITTEN TESTIMONY.

GOVERNOR PERPICH AND I ATTENDED 14 PUBLIC FORUMS. WE CAME TO LISTEN. AND STATE LEGISLATORS LISTENED WITH US. IN FOLLOW-UP TO WHAT WE HEARD, WE VISITED 15 HIGHWAY AND RAIL CROSSING SITES WHICH WERE IDENTIFIED BY CITIZENS AS NEEDING SAFETY IMPROVEMENTS.

OUR TRAFFIC ENGINEERING AND SAFETY EXPERTS CAREFULLY REVIEWED THE TESTIMONY TO DEVELOP A COMPREHENSIVE PLAN OF ACTION. MORE THAN 100 LOW-COST, SHORT-TERM SAFETY ENHANCEMENT PROJECTS WERE IDENTIFIED TO BE CARRIED OUT IN 1990 AND 1991. ADDITIONALLY, OUR PROGRAM MANAGEMENT PROFESSIONALS ANALYZED THE DEPARTMENT'S PROGRAM OF WORK WITH A RE-EMPHASIS ON SAFETY. THE SAFETY FORUMS HAD SENT A CLEAR MESSAGE. MINNESOTA CITIZENS OVERWHELMINGLY CONFIRMED THAT SAFETY SHOULD BE OUR TOP PRIORITY. AS A RESULT, AN ADDITIONAL $7.6 MILLION WAS COMMITTED TO HIGHWAY SAFETY ENHANCEMENT WORK.

OTHER SAFETY PROJECTS - TOTALLING APPROXIMATELY ONE-HALF BILLION DOLLARS -

WERE IDENTIFIED BUT WILL REQUIRE ADDITIONAL FUNDING FROM THE STATE LEGISLATURE BEGINNING IN 1991.

A FEDERAL-STATE-LOCAL PARTNERSHIP

WE APPLAUD THE THRUST OF THE NATIONAL TRANSPORTATION POLICY ANNOUNCED LAST MARCH BY SECRETARY SKINNER. WE ARE PARTICULARLY PLEASED WITH THE POLICY'S EMPHASIS ON:

- A BALANCED SYSTEM USING ALL TRANSPORTATION MODES TO GREATEST ADVANTAGE
- ASSURING A SAFE TRANSPORTATION SYSTEM
- INSURING THAT TRANSPORTATION USER FEES ARE USED SOLELY FOR TRANSPORTATION
- ALLOWING GREATER FLEXIBILITY IN THE USE OF FEDERAL FUNDS
- INCREASED FUNDING FOR TRANSPORTATION RESEARCH, AND
- ENCOURAGING NEW PRIVATE INITIATIVES

AT THE SAME TIME, THE INCREASED STATE AND LOCAL SHARE OF PROJECT COSTS PROPOSED BY THE POLICY WILL PLACE GREATER FINANCIAL PRESSURE ON STATE AND LOCAL UNITS OF GOVERNMENT. BECAUSE OF THIS, IT IS DOUBLY IMPORTANT THAT ROAD USER TAXES, THE TRADITIONAL HIGHWAY REVENUE SOURCE FOR THE STATES, NOT BE DIVERTED BY THE FEDERAL GOVERNMENT FOR NON-TRANSPORTATION PURPOSES.

WE MUST BEGIN TO SPEND DOWN THE APPROXIMATELY $16 BILLION BALANCE THAT HAS ACCUMULATED IN THE HIGHWAY TRUST FUND. IT IS REPREHENSIBLE TO LET OUR ROADS AND BRIDGES DETERIORATE WHILE UNSPENT REVENUES ACCUMULATE IN THE TRUST FUND. FOR MINNESOTA, THE LIMITS ON OBLIGATION AUTHORITY THE U.S. CONGRESS HAS

IMPOSED HAVE RESULTED IN AN UNSPENT BUILDUP OF APPROXIMATELY $200 MILLION. THIS IS TAX REVENUE THAT USERS OF THE MINNESOTA HIGHWAY SYSTEM HAVE PAID FOR ROAD AND BRIDGE IMPROVEMENTS. THIS MONEY SHOULD NOT BE USED IN ECONOMIC JUGGLING TO MAKE THE SIZE OF THE NATIONAL DEBT LOOK SMALLER. REMOVAL OF OBLIGATION AUTHORITY LIMITS AND MOVING THE TRANSPORTATION TRUST FUND OFF OF THE UNIFIED BUDGET ARE ESSENTIAL IF WE ARE TO BEGIN ADDRESSING OUR SERIOUS TRANSPORTATION PROBLEMS.

WE HAVE BEEN FORTUNATE IN MINNESOTA BECAUSE GOVERNOR PERPICH AND THE STATE LEGISLATURE HAVE BEEN STRONG SUPPORTERS OF TRANSPORTATION. RECENT INCREASES ENACTED BY THE LEGISLATURE DEMONSTRATE THEIR COMMITMENT TO TRANSPORTATION. THE 1990 CONSTRUCTION SEASON IS THE LARGEST IN STATE HISTORY WITH SOME $620 MILLION IN HIGHWAY IMPROVEMENT. ALTHOUGH THIS COMMITMENT REPRESENTS A SIGNIFICANT AMOUNT OF WORK, MUCH MORE NEEDS TO BE DONE.

TO SUCCESSFULLY MEET THE CHALLENGES FACING US, ADDITIONAL FINANCIAL RESOURCES WILL HAVE TO BE IDENTIFIED. THE FEDERAL SHARE OF THE TRANSPORTATION DOLLAR HAS BEEN SHRINKING. A NEW DIRECTION FOR TRANSPORTATION FINANCING IS NEEDED. BOLD NEW FINANCING ALTERNATIVES INVOLVING THE PRIVATE SECTOR MUST BE PURSUED AT THE FEDERAL, STATE AND LOCAL LEVELS IF WE ARE TO ADEQUATELY MEET OUR NATION'S TRANSPORTATION NEEDS.

TODAY WE ARE AT A CROSSROADS IN TRANSPORTATION. THE STATE OF MINNESOTA AND ITS PEOPLE HAVE BEEN DOING THEIR PART TO ASSURE A STRONG AND VITAL TRANSPORTATION INFRASTRUCTURE. IT IS NOW TIME FOR THE FEDERAL GOVERNMENT TO PROVIDE STRONG LEADERSHIP AND A NEW DIRECTION AND VISION FOR THE FUTURE.

I WANT TO AGAIN THANK THE MEMBERS OF THE SUBCOMMITTEE FOR INVITING ME TO APPEAR AT THIS HEARING. I WOULD BE PLEASED TO ATTEMPT TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

34-056 O - 90 - 3

STATEMENT OF HON. KEITH LANGSETH, STATE SENATOR

As Chair of the Minnesota Transportation Study Board, I would like to submit into the record of this hearing our Interim Report which was adopted by the Board on February 28, 1990. We will submit our final report to the Minnesota Legislature and Governor by January 15, 1991. We will also furnish copies to this Sub-Committee at that time. The Study Board's charge is to develop a long-range surface transportation plan and funding proposal which will meet our needs into the 21st century. In the Minnesota Legislature, I also serve as Chair of the Semi-States Division of the Senate Finance Committee. This Sub-Committee handles the financing for transportation, and it is primarily funding that I wish to speak to today.

In Minnesota, we have seen a decline in the funding generated from traditional sources such as the fuel tax. Therefore, alternative sources such as the Motor Vehicle Excise Tax and a re-structured vehicle registration tax have provided substantial additional funding here for Minnesota's transportation needs. Minnesota has made a strong financial commitment to transportation for many years. The state and its citizens have willingly submitted to some of the highest gasoline and vehicle registration taxes in the country. The Federal Government must recognize those states which have made a strong commitment and realize the limited capacity for increasing revenues in those states. Actions that may be taken at the federal level regarding the fuel tax will have a substantial impact on states. We as legislators, as we contemplate raising the state fuel tax for transportation purposes, may be faced with making unpopular decisions. My concern is that should Congress determine that an increased fuel tax is a proper method for reducing the budget deficit, either in the short or long term, we in the states will find it difficult to increase our fuel taxes for transportation. Should Congress raise federal fuel taxes for deficit reduction, Congress should also match that increase with a dedicated increase for transportation.

As a state legislator, I am concerned about the steady decrease in funding at the federal level for transit facilities and services. In particular, several cities across the country have received substantial funding for Light Rail Transit. We in Minnesota are moving in a direction to provide LRT service with a linkage between Minneapolis and St. Paul. We feel that there is a role for the Federal Government in providing funding for this project as has been done in other states as part of a national commitment to increasing transit ridership. This is not to ignore the transit needs in our small urban and rural areas. Funding for these other transit services must be maintained as a high priority at the federal level. The Federal Government must not only have a presence in setting goals and establishing new policy direction, but in providing the necessary financial resources to spur an overall transit investment.

Regarding the Administration's new policy strategy, the proposal to identify a system of nationally significant highways sounds like a worthy objective. We understand that something on the order of 130,000 miles nationally are being considered for the system. We in Minnesota are reluctant to endorse the size of that system until we know how that will relate to actual mileage here in Minnesota. The lack of an interstate highway in the southwestern part of our state, leaving the area disadvantaged without access to a four lane route, demonstrates the impact upon rural development.

We would like to express our support for that component of the administration's proposal which would allows states more flexibility and discretion in the use of federal funding. At the same time, however, we see a need for federal oversight to ensure that national objectives are maintained in individual states.

The federal tax code should be revised to promote private and non-federal investment in transportation. I authored a bill in the 1990 session of the Minnesota Legislature that would enable state and local governments to negotiate with the private sector for the provision of toll roads and bridges on public roadways. Given the new technologies available for collecting fees, the use of toll facilities could be effective in the future as a source of transportation funding without the cumbersome and delaying impacts of current toll facilities.

National transportation and energy policy must be closely coordinated. As a resident of rural America, the price of gasoline greatly impacts my ability to market my farm products and also affects the personal mobility of me and my family.

THE IMPORTANCE OF AN INTEGRATED, COMPREHENSIVE NATIONAL TRANSPORTATION SYSTEM TO THE UNITED STATES AND THE UPPER MIDWEST*

G. Edward Schuh**

It is a pleasure to give testimony at these hearings. It is long past due that we gave renewed attention to our transportation system in this country, and to its relation to the performance of our national economy.

My comments are divided into two main parts. First, I will discuss the premises I have in mind when thinking about the inter-relations between the transportation system and the economy of the region. Second, I will make some suggestions for designing an efficient transportation system. These suggestions provide some insight into what I see as some of the priority issues. In both sets of remarks I try to share with you the experience we have gained with our Center for Transportation Studies here at the University of Minnesota under the leadership of Dick Braun and Bob Johns and their colleagues.

The Premises

Any discussion of the premises for considering the inter-relations between the transportation system and the economy of the upper midwest has to start with a quick overview of the character of the economy itself. An important feature of the

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* Presented at a hearing on the future of the Federal-aid highway program and related surface transportation issues, held by the Senate Environment and Public Works Committee, Minnesota State Capitol, St. Paul, July 10, 1990. My testimony is drawn from an earlier presentation I made to the Mountains-Plains Consortium (MPC) Advisory Council, Minneapolis, MN, November 30 - December 1, 1989.

** Dean, Humphrey Institute of Public Affairs, University of Minnesota, Minneapolis.

economy of this region is that it is sparsely settled and located a long way from potential markets, whether one is considering those here at home or those abroad. An important consequence of that feature of the economy is that the region will inevitably have to bear a major share of the burden of the adjustment to changes in either the domestic or international economy. The point is that transportation costs are a natural barrier to trade, and the larger those costs, the more sensitive the local economy becomes to changes in demand. Moreover, reducing transportation costs expands the markets for this region and thus stimulates economic development.

The second important feature of the economy of this region is that it is made up of a limited number of urban centers, including especially Minneapolis/St. Paul and Denver. An efficient transportation system must at one and the same time connect these urban centers to their respective rural hinterlands, and to the rest of the national and international economies. Third, commodities play an important role in the economies of the region, ranging from energy products such as coal and petroleum to agricultural commodities. Fourth, tourism is also an important part of the economy. Both commodities and tourism are important export products (and services) although in one case the issue is how to transport physical products in as low cost a way as possible, while in the other case the issue is how to bring people to a local service sector. The involvement of people means that convenience may play as important a role as the actual cost of the services the transportation system will

ultimately have to render.

This brings me to my second premise, which is that the trade of the region with the rest of the world tends to be transportation-intensive. This means that transportation costs tend to make up a relatively large share of the costs of delivering goods and services to the final consumer.

This is an important feature of the U.S. economy as a whole, and explains in large part why per capita consumption of energy is so high in this country - a much neglected issue back in the 1970's when everybody was being so critical of the United States for consuming so much energy. This transportation-intensive character of our economy is rooted in two facts: (1) our country is geographically large, with our economy widely dispersed over its area, and (2) bulky commodities make up such an important part of our total output. This feature of our economy gives added importance to developing and sustaining an efficient transportation system.

My third premise is that the importance of the transportation infrastructure as an element of economic development policy has been badly neglected in this country. It is important to note in this regard that even our modern system of interstate highways was originally justified on the basis of national defense policy rather than on its role in promoting economic development. This neglect is somewhat puzzling in light of the importance of transportation costs in our total economy, and may have something to say about the difficulty in assessing the contribution of infrastructure to economic development

generally.

My fourth premise is that this nation has a policy imperative at this point in its history to compete internationally, and to export goods and services in which we have a comparative advantage to other countries. This imperative is rooted in the rapid accumulation of foreign debt by this country over the last decade.

This is an incredible story, and one not sufficiently well appreciated by either our policy makers or our citizenry. In the short space of 18 months some five years ago the United States shifted from being the world's largest creditor nation to being its largest debtor nation. The accumulation of debt has continued to grow rapidly as we pursue perverse and contradictory monetary and fiscal policies. Currently we are the world's largest debtor nation -- with a foreign debt of over $500 billion and still growing. This growth in debt is not expected to level out until 1991, when it will have reached $1 trillion. And we worry about Brazil's debt of slightly over $100 billion!

To appreciate the significance of a debt of this magnitude, note that it will take a trade surplus of approximately $50 billion a year just to service this debt, to say nothing of the foreign exchange we will need to pay for our rapidly growing imports of petroleum and other raw materials, and of the consumer goods and services we like to acquire from abroad. To move from our present trade deficit of approximately $160 billion to a surplus of $50 billion a year will require a significant fall in the value of the dollar, unless we should suddenly become much

more competitive in the international economy than we now are.

From the perspective of our concerns here today, an improved transportation system can help us to become more competitive. In thinking about this potential, we need to remind ourselves that a major fall in the value of the dollar is equivalent to a decline in our standard of living because it means that we have to give up more in terms of domestic resources to pay back each unit of foreign debt.

The importance of an efficient transportation system does not stop with improving our export performance, however. This nation also imports more and more of the modern inputs needed for growth in the productivity of our economy as we take advantage of technological developments and low wages in other countries. We can bring in these inputs -- and the raw materials that we import -- at lower cost to our production sectors, be they agricultural or manufacturing, if we have an efficient transportation system. Hence, improvements in that system can help us on both the export and import side.

Finally, let me say just a few words about what I mean by an efficient transportation system, since I have used that expression a number of times and since it has a somewhat complicated meaning in the context of the transportation sector. It is useful to think about two concepts of efficiency - technologic and economic. Technological efficiency is the easiest to think about since it refers to the simple relationship between inputs and outputs. The efficient technology is the one that delivers the service or produces the product with the least

cost.

Economic efficiency, on the other hand, is more complicated because one has to think about minimizing costs subject to an objective function, where the objective function contains the multiple goals one may have for the transportation system. It is the multiple goals one may have for the transportation system which complicates the problem. For example, we may not be interested in just maximizing GNP. We may also may want to have a more equitable distribution of income as well, or we may want to have our economic activities more widely dispersed over our geographic space, in contrast to having these activities all concentrated in small areas.

The other complicating factor in defining an economically efficient transportation system is that more than transportation systems per se are involved. Time is an important component of total transportation services, as we all know when we are setting in a traffic jam some place when we would really like to be on our way home! This means that just developing the lowest cost transportation system isn't the issue, nor that minimizing the capital and operational costs of the units delivering the transportation services is the only objective. The value of time in getting people and goods from one place to another also has to be taken into account.

Some Suggestions for Designing an Efficient Transportation System

One of the things that impresses me when I see the decision-making on improving transportation systems is the tendency to

start with the present system and then to make incremental changes in it. This strikes me as completely wrong, and an approach that we should avoid. The problem with it is that it locks us into the past configuration of the economy, whereas an efficient transportation system -- based on the latest in transportation and communication technologies -- might well give us a completely new configuration of the economy. In addition, the adoption of the latest in transportation technology might give us a completely different configuration of the transportation system itself.

For these reasons I believe that what we need to do is to project the economy of the region into the future based on the best data we can develop and the best judgements we can make about the future evolution of the economy, and then design the most efficient transportation system for that economy. This may involve a completely different transportation system than the one we now have, and one involving major commitments of new resources. But we can move toward that new system in an efficient way if we know what it should look like, whereas making incremental changes to the present system may never get us there, or get us there only at high cost.

Technological developments may make such ... te changes in the system an imperative if one is concerned a... he <u>future</u> efficiency of the system. It is a mistake to ... wed to the present system for, after all, in economic ter... bygones are bygones. There is nothing worse than being bou... to an obsolete system.

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There are a number of complications in making the projections of the future economy. The first is in knowing whether the United States as a whole is going to be more or less export oriented in the future. If it is going to be more export oriented, then one would want to concentrate on designing a transportation system that is oriented towards getting the goods and services from the region to the foreign market in the most efficient manner. If it is going to be more domestically oriented, then one would want a transportation system more oriented to the domestic economy, and perhaps even to the regional economy itself. Efficient integration of the regional economy may be the goal.

An important issue in this context is that the configuration of goods and services produced by the regional economy will be different if the economy is export oriented than if it is domestically or regionally oriented. Hence, one has to project the economy into the future based on a number of alternative scenarios. The key variable in making these projections is the value of the nation's currency in foreign exchange markets. This is the single most important variable in determining how trade-dependent the regional economy will be. Thus, what we have proposed in our study for the University of Minnesota transportation studies is that we project the economy into the future on the basis of a number of alternative exchange rate scenarios.

A second important issue is that the composition of the regional economy will itself be determined by the nature of the

future transportation system. An efficient transportation system oriented to the international economy can by itself make the regional economy more competitive in the international system and thus affect the goods and services configuration of the economy. This is only one dimension of the problem, however. Different configurations of rail, highway, and water transportation systems can also have important consequences for the regional economy, as can different techologies for particular transportation systems.

A third important issue in projecting both the economy of the future and its associated transportation system is environmental considerations. Perhaps the best way to sharpen this issue is to note that the most important way to delay the expected warming effects from greenhouse effects is to reduce the consumption of fossil fuels. Doing that has some very important implications for the design of the transportation system. But other environmental issues can also have important effects on the transportation system, such as the need to reduce urban air pollution. These issues should all be factored in to the design of the future transportation systems.

There is one other issue we need to give more attention to in the design of future transportation systems. That is that communication and transportation services increasingly substitute for each other as important elements of our physical infrastructure. This is a reflection in part of major breakthroughs in the technology for our communication system. But it is also a reflection of significant shifts in the composition of our economy towards the services sector, and the

growing importance of information as an element of the service sector. These services can be produced and delivered where the people are, rather than to move the people to where they might produce the services centrally.

Unfortunately, these growing substitution possibilities between transportation and communication services are not well understood. This is an area in which we need some fairly basic research.

Concluding Comments

One of the important characteristics of work on transportation systems is that it tends to be dominated by engineers. Clearly, technologically efficient transportation systems are important, and new technologies for these systems can be important sources of economic growth for the economy as a whole. But the economic and social dimensions to the problem are also important. I can't think of better examples of this importance than two examples close to home. The completion of an interstate interchange in downtown St. Paul was delayed some 20 years because of a political impasse over the design of the interchange. What few people seem to recognize is the sacrifice in economic growth as a consequence of this delay, and the low social payoff from previous investments in the system because of the failure to complete it in a timely fashion.

Similarly, in the case of the Hiawatha expressway in Minneapolis, the delay was also approximately 20 years. In this case, major investments were made to buy up property and to clear the right-of-way, but the road is only now being constructed.

Think about the lost income from making those investments some 20 years ago and having absolutely no payoff from them in the intervening period.

The point in both cases is that if economists and other social scientists had played a greater role in the entire process by designing alternative solutions to the problem, by designing effective policies to deal with the obvious adjustment problems associated with these major social investments, and by calculating the costs to society of delays in completing the construction, the problem might well have been resolved long ago. Major social investments such as the development of alternative transportation systems require the inputs of engineers, biological and physical scientists, and social scientists. Nobody has a monopoly on knowledge, nor are these single dimension problems.

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STATEMENT OF

THE HONORABLE FRANK SWEDZINSKI

COUNTY COMMISSIONER

LINCOLN COUNTY, MINNESOTA

AND

CHAIRMAN OF THE TRANSPORTATION AND AGRICULTURE POLICY COMMITTEE

OF THE ASSOCIATION OF MINNESOTA COUNTIES

ON

REAUTHORIZATION OF THE

FEDERAL SURFACE TRANSPORTATION PROGRAM

BEFORE THE

WATER RESOURCES, TRANSPORTATION, AND INFRASTRUCTURE SUBCOMMITTEE

OF THE

SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

TUESDAY, JULY 10, 1990

ST. PAUL, MINNESOTA

Mr. Chairman,

Good morning. My name is Frank Swedzinski. I am a County Commissioner from Lincoln County, Minnesota and chair of the Association of Minnesota Counties Transportation and Agriculture Policy Committee. Thank you for inviting me to appear today before the Water Resources, Transportation and Infrastructure Subcommittee of the Senate Environment and Public Works Committee to discuss the reauthorization of the federal highway and mass transit programs.

Although Minnesota is regarded as having one of the finer highway systems in the nation, this state is not without its' problems. This examination of the federal role in transportation is especially timely in light of the ongoing reports of the poor state of American infrastructure. Minnesota is currently conducting a similar examination of our state's transportation needs and how they can be adequately met over the next twenty years.

Minnesota is in the midst of considerable discussion regarding transit services both in metropolitan areas of the state as well as in rural areas. Much of the transit discussions have centered on light rail transit. The maximum twenty year light rail plan prepared by the Regional Transit Board estimates a cost of $1.9 billion for 123 miles of light rail service. The federal government should be encouraging light rail transit as one method of reducing congestion on our highways.

The need for rural transit in Minnesota is becoming increasingly important as the elderly population becomes a larger and larger proportion of the rural population and their ability to travel without assistance is reduced. The availability of services in Greater Minnesota has increased substantially in the last five years from 16 programs in 1985 to 34 in 1990. These services are greatly needed and deserving of increased federal support.

Minnesota ranks as the 14th largest state, with a population rank of 21st. The total road system is 132,700 miles or the 5th largest in the country. Minnesota constantly struggles to maintain and improve this large road system with a relatively small population from which to derive financial support.

Counties in Minnesota are responsible for a 45,442 mile road system, or 34.2 percent of the road mileage in the state. 30,145 miles are under the state aid system and largely funded through allocation by the state gas tax and motor vehicle registration fees. Counties are guaranteed 29 percent of these revenues by the Minnesota Constitution. 35 percent, or 15,885 miles of county mileage is on the federal aid secondary system.

Many counties are still struggling to "get out of the mud". County engineers establish a grid system that should be paved to ensure a relatively equal level of service for all citizens of the county. 24,279 miles of county roads are paved, or just over half

(53.4%) of all roads under county jurisdiction. In some counties there is adequate paved road service, but in others that is not yet the case. While the State of Minnesota and counties are working towards this goal, it is hoped that the federal government can continue and increase support to local governments for road improvements.

Approximately one-third of roads under county jurisdiction are funded solely by property taxes. Public expenditures in other areas, particularly human services, are increasing at a rate higher than inflation which is reducing the ability of counties to raise local revenue for transportation improvements. Although not something that can be addressed at the federal level, state imposed levy limits further constrain the ability of local governments from raising revenues for transportation.

Minnesota has been very progressive when it comes to transportation financing. Our state's gas tax has been increased from 9 cents per gallon in 1980 to 20 cents per gallon after a 3 cent increase was enacted in 1988. Legislative leaders are considering another increase for the 1991 Legislative Session. County government in Minnesota believes in and supports a user fee based transportation funding system. We ask that you oppose any efforts to increase the federal gas tax for deficit reduction purposes. Gas tax revenues must be funneled back into correcting transportation deficiencies.

The balance of the Highway and Transit Trust Funds continues to be a contentious issue. Counties would support the draw down of the existing balance to meet the pressing needs of our country's transportation systems. Drawing down the balance would relieve pressures on the surface transportation systems without an immediate tax increase. The use of the balance in the Trust Funds must be addressed in the reauthorization of the Federal Surface Transportation Program.

Existing and future federal transportation funds must be used in a manner which will be of benefit to all areas of Minnesota and certainly the United States. Much of the discussion surrounding reauthorization of the Federal Surface Transportation Program concentrates on interstate and urban issues. There is no question that these areas are in need of additional support. But do not ignore the pressing needs of rural Minnesota.

Secondary road systems in this country bear much of the brunt of carrying the products of the land from areas of production to areas of production and eventual consumption. The needs of agriculture, timber, and mining must receive due consideration. It is hoped that the ongoing discussions surrounding the federal role in transportation recognizes the integrated nature of the American economy. A downturn in one region or industry will affect the rest of the nation.

The economic situation in many largely rural areas of

Minnesota beg that their transportation needs be addressed. Why are the size of metropolitan areas growing across the country? There are many reasons for this phenomenon, one would seem to the better connections that metropolitan areas have to other areas of the country and the world than rural areas. Increasing metropolitan growth puts additional pressures on transportation systems, medical systems, and other public services. It would seem in the best interests of all that federal resources be invested, to the extent practicable, to stabilize and expand the rural economy. Transportation improvements are an essential ingredient to local economic development efforts.

Transportation policies clearly affect the local economies within Minnesota. Business people will tell you that a primary factor in locating a business are the transportation connections of the chosen community. An examination of the development that has occurred along the interstates will indicate the importance of federal transportation policies in local economic development. Cities only a few miles from an interstate are not developing at the same rate as one that has direct access to an interstate.

Counties in some states have commented that they are not pleased with the manner in which federal aid secondary monies are spent. I am happy to report that this is not a problem in Minnesota. However, in support of county government elsewhere I would encourage the Committee to examine this issue and, if appropriate, require states to involve locally elected officials

when making decisions on the use of federal aid secondary monies.

Bridges serve an important link in our transportation system that is increasingly overlooked at the same time that bridge deficiencies are increasing. Two reports released within the last year and a half document the current status of bridges in Minnesota.

The Minnesota Department of Transportation completed a study in September 1988 entitled, "The Minnesota Bridge Replacement Program Task Force Report". Criteria established by the Federal Highway Administration (FHWA), 5281 or 27 percent of Minnesota's 19,492 bridges are deficient. Counties have jurisdiction over 1,756 of these deficient bridges, or 33.3 percent of the statewide total. The estimated replacement cost of the 5,281 deficient bridges is $887.3 million.

Let me assure the Committee that a deficient bridge is not necessarily unsafe. If they are unsafe, their use is restricted or they are closed to the public. Deficient bridges are generally either functionally obsolete or structurally deficient, and typically have weight or clearance restrictions placed on them.

Minnesota has made an impressive effort at replacing deficient bridges. Since the inception of the Minnesota Local Road Bridge Replacement Fund in 1977 through 1987, the State of Minnesota has invested $120 million in county, city and township bridges. The

Federal Government has allocated $98.1 million for local bridge replacement in Minnesota during that same period. Federal and state bridge expenditures have replaced, rehabilitated, or removed 3,186 bridges. Over 900 other structures have been replaced, rehabilitated, or removed with other funds available to local governments.

While these achievements have been substantial, much more must be done to meet the current and anticipated annual replacement needs. To accomplish this the annual replacement of bridges in Minnesota must be increased to 289 with an estimated cost of $70 million. By comparison, in 1987, 179 bridges were replaced at a cost of $33.8 million.

A report was released in February, 1990 by the Minnesota Transportation Alliance with the title, "Minnesota's Aging Bridges: The Need For Rehabilitation and Restoration". This report indicated that bridge deficiencies are much higher than the above discussed Minnesota Department of Transportation Report.

The report made the following findings:

1. one out every four bridges in Minnesota are deficient, 88 percent are on the county, township or municipal road systems;

2. the backlog of deficient bridges continues to climb despite efforts to catch up. Between 1986 and 1989 state and local governments spent $139.3 million to replace more than 650 bridges,

but the backlog of deficient bridges longer than twenty feet increased by 145;

3. it will cost a total of $885 million to bring Minnesota's deficient bridges up to a good condition and another $298.8 million to rehabilitate or replace some 200 bridges expected to become deficient in the next ten years.

Local governments are unable to meet this problem, with their existing revenue base, without increased federal and state support. The Federal Government must increase its commitment to bridge replacement. A highway system is only as good as the bridges that connect it.

In summation, there are many pressing needs faced by local governments in Minnesota. An effective, efficient transportation system can be an element to overcome other problems, or can be itself a problem in need of additional support that only the state and federal governments can be of assistance in correcting. The federal government clearly has a role in transportation; county government in Minnesota places its trust that the reauthorization of the Federal Surface Transportation Programs will chart the proper course for improving the economic and social well being of the citizens of the United States.

TESTIMONY

Transportation Needs
For The 21st Century

Statement by
Steven J. Quam, Mayor
City of Richfield, Minnesota

Before the
Water Resources, Transportation and
Infrastructure Subcommittee of the
Senate Environment and Public Works
Committee

Tuesday, July 10, 1990, 9:30 AM
Room 15, Minnesota State Capitol
St. Paul, Minnesota

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to provide testimony on the national transportation policy. I am Steve Quam, the Mayor of Richfield, Minnesota. The City of Richfield is a first-ring suburb located south of Minneapolis, and between the state's other two largest cities, St. Paul and Bloomington and adjacent to the Minneapolis-St. Paul International Airport. Because of our location, the city is involved in a variety of transportation issues which I would like to share with you.

The City of Richfield recognizes the importance of the transportation system to ensure adequate mobility and a good quality of life for its citizens. It also acknowledges the roles of the transportation system as a catalyst for economic development and as an essential link to the rest of the metropolitan area and the rest of the world.

Because of the importance of the transportation system in our daily life, the City of Richfield has some serious concerns about the present and future performance of the transportation system and our ability to keep up with the necessary improvements. We are also concerned about some of the negative impacts that certain improvements could have on the city.

The City of Richfield, a mature suburb within the Twin Cities metropolitan area, has remained fairly stable in terms of population and has experienced a modest increase in jobs over the past 20 years. Some of our neighbors are experiencing a much

faster rate of growth particularly in terms of their employment base.

Suburban growth in the 1950's and 1960's was essentially fueled by residential development. In the last two decades, office and retail development have created a very large employment base in the suburbs. Jobs in the Twin Cities region grew 41 percent between 1970 and 1986 and most of the net growth was in the suburbs.

One of the consequences of the tremendous economic development experienced by the suburbs has been a significant loss in mobility. In other words, rush-hour congestion has become a common occurrence in the suburbs. From the mid-1970's to the mid-1980's, the miles of severely congested freeways in the Twin Cities metropolitan area tripled from 24 to 72 miles. Many of those miles of freeways are in the suburban area. The old concept that only the portions of the transportation system closer to the downtown are congested is no longer a reality. Suburban commuters are also experiencing significant delays due to congestion.

The future, in the absence of fairly dramatic improvements, does not look any better. Transportation planners anticipate that about 200 miles of our metropolitan freeway system could be severely congested by the year 2010 if no additional capacity is provided. The majority of those miles will be located in the suburbs.

Richfield is surrounded by four major highways: I-35W, I-494, T.H. 77 and T.H. 62. Traffic volumes in those major

highways have increased between 50 and 90 percent from 1972 to 1988. They are expected to increase by another 50 percent over the next 20 years.

The combination of those traffic volume increases, coupled with the fact that those highways are approaching the end of their life expectancy (about 30 years) makes it imperative to consider major reconstruction in the near future. In fact, reconstruction of every one of those highways is either under way or in planning at this time. The City of Richfield supports these improvements but recognizes that many of those now in planning will not be possible if no new resources are made available. Under the existing funding scenarios, transportation planners anticipate an annual shortfall for transportation improvements in this metropolitan area of well over $100 million over the next 20 years.

Because of the critical impact that delay of this reconstruction would have on the traffic environment of our community and because of the social disruption caused by the uncertainty caused by delay, the City of Richfield supports the use of transportation trust fund monies to improve the transportation system and not for other purposes. The federal government should at a minimum preserve the integrity of the trust funds and spend the very sizable unspent balances that exist today. In the long-term and because of the magnitude of the need for infrastructure improvement throughout the nation, the federal government should strongly consider increases in the federal gas tax.

The City of Richfield is also concerned about the socioeconomic and environmental impacts that some of the necessary transportation improvements might have on the city's residents. Areas of concern include accessibility, neighborhood disruption, noise levels, air quality, safety and perhaps above all, the uncertainty created by major physical changes that remain in a highly visible planning status over an indefinite funding time frame.

An area not often addressed in considering transportation infrastructure is the impact that construction has on the aesthetic environment of the urban communities in which it is located. I believe that increased attention to the aesthetic impacts of urban highways would increase the public acceptance of these facilities and make it considerably easier and perhaps less costly to site them or improve them.

In order to minimize negative impacts, the City of Richfield supports a number of strategies such as encouraging people to ride with others rather than drive alone, managing travel demand and emphasizing the role of the transit system. In order to utilize those different strategies, local implementing agencies (i.e. Mn/DOT, RTB...) need to be able to use federal funds, particularly in regards to the Interstate System, in a flexible manner.

For example, management of an urban freeway system places increased reliance on the existence of a good system of minor arterial and collector streets. These streets are needed to accommodate shorter vehicle trips, carry most urban bus routes,

and provide adequate access for local economies. In some cases these support systems will not be adequate. Renewal and redevelopment of our central cities and suburbs will require improved arterial and collector streets to serve higher local densities and to relieve urban freeways from the need to accommodate short and medium length trips. Federal transportation policies that recognize needs in corridor areas rather than strictly within the confines of freeway right-of-way will best serve the continuing vitality of urban America.

The City of Richfield believes that some municipal streets serve a regional transportation function as relievers to the freeway network during peak traffic periods. As such, they should receive federal funds similar to the Federal Aid Urban Program.

As another example of the need for funding flexibility, I-35W is an Interstate freeway where a multimodal solution (i.e. additional highway and transit capacity) appears necessary. Highway solutions that continue to rely solely on additional right-of-way takings have become unacceptable in a mature urbanized area. A mixture of Light Rail Transit (LRT) and highway capacity or a mixture of regular highway lanes and high-occupancy-vehicle (HOV) lanes appear to be a more acceptable solution. Flexibility in funding between transit and highway alternatives would greatly assist local governments in selecting the most appropriate transportation mode, and in permitting the development of a unified functional transit plan.

We support combining federal transportation programs that give local and state governments the flexibility needed to develop unified solutions to address regional transportation problems. For instance, UMTA project eligibility requirements are very different from those used by the Federal Highway Administration. In addition, they draw on separate sources of funding. As a result, highway and transit projects are difficult, if not impossible, to coordinate.

As urban places expand beyond areas served by existing beltway freeways, there is a growing need to plan and improve arterial roads to carry suburban travel. There are existing arterials which can serve suburb to suburb travel oriented in a radial direction towards the urban core. However, this is not the case for suburban beltways beyond the Interstate ring. There is a need to identify and expand arterial roads, located in the urban fringe, especially those with a circumferential orientation. Federal transportation policies should encourage a strong role for metropolitan planning organizations and local units of government in the development of project priorities and should be flexible with regards to the kinds of projects and project elements eligible for federal participation.

The City of Richfield is also concerned about the future of the Twin Cities major airport. While we recognize that it is not a part of surface transportation, it is an integral part of the total national transportation system and this airport is critical to the economic vitality of the region. It is essential that adequate capacity be provided to ensure that the aviation needs

of the Twin Cities are adequately met. A part of meeting these needs is also the provision of adequate surface transportation to and from the airport.

Another possible alternative to relieve the nation of total reliance on passenger air transportation would be to place greater emphasis on a new generation of inter-city rail service.

In closing, the City of Richfield believes that the federal government has a very strong role to play in the development and maintenance of the major transportation systems. "No other industry in the nation is more important to U.S. economic growth and international competitiveness than transportation" according to Secretary Skinner in the presentation of the new transportation policy. The federal government cannot expect state and local governments and the private sector to be responsible for such a vital sector of the economy. The federal government needs to provide leadership and the necessary resources to do the job well.

TRANSPORTATION INFRASTRUCTURE

A
STATEMENT BY
WILLIAM K. SMITH

BEFORE
SENATOR DURENBERGER,
U.S. SENATE
ENVIRONMENT AND PUBLIC WORKS
COMMITTEE

THE SECRETARY OF TRANSPORTATION, IN HIS FEBRUARY, 1990 STATEMENT OF NATIONAL TRANSPORTATION POLICY STRATEGIES FOR ACTION, SAID:

> THE FOUNDATION OF THE NATION'S TRANSPORTATION SYSTEM IS THE INFRASTRUCTURE - OUR BRIDGES, HIGHWAYS, AIRPORTS, RAIL LINES, PORTS AND WATERWAYS, PIPELINES, AND OTHER FIXED FACILITIES. THE TRANSPORTATION INFRASTRUCTURE IN THE UNITED STATES IS NOW AT RISK. THEREFORE, THE NATION MUST MAINTAIN THESE TRANSPORTATION ASSETS AND DEVOTE THE RESOURCES NECESSARY FOR REINVESTMENT AND EXPANSION, TO SUPPORT THE EFFICIENCY, CAPACITY, AND PERFORMANCE OF THE TRANSPORTATION SYSTEM AND THE GROWTH AND STRENGTH OF THE NATIONAL ECONOMY. INVESTMENT IN TRANSPORTATION IS ALSO CRUCIAL TO THE HEALTHY OF LOCAL STATE AND REGIONAL ECONOMIES.

THE SECRETARY'S LANGUAGE REFERS TO BRIDGES, HIGHWAYS, AIRPORTS, RAIL LINES, PORTS AND WATERWAYS, PIPELINES, AND OTHER FIXED FACILITIES. MY BRIEF STATEMENT REFERS TO HIGHWAYS AND RAIL LINES. AND LIKE THE SECRETARY, I BELIEVE THE HIGHWAY AND THE RAIL LINES INFRASTRUCTURES ARE AT RISK.

First some data dealing with the transportation of freight, and it is in the context of "freight" that most of my remarks are addressed.

During the decades of the 60's, 70's, and 80's, the amount of freight being transported within the United States increased from about 3.6 billion tons to approximately 6.1 billion tons annually, one of the few major economic measures that grew less than 100 percent during those years.

The highways handled 32.7 percent of the 1960 tonnage and about 41 percent of the 1989 tonnage. The rail lines handled 36.1 percent of the 1960 tonnage and about 27 percent in 1989. In the 30 years, the highways' share of freight tonnage increased by almost 10 percentage points, and the rail line's share decreased by close to 10 percentage points. The highways and the rail lines, whether in 1960 or 1989, handled about two-thirds of the tons of freight. Almost all of the other one-third were carried by pipelines (about 17 percent) and waterways (also about 17 percent). The airlines in 1960 and in 1989, despite great growth in the number of tons transported, handled less than <u>one-tenth</u> of <u>one percent</u> of the total 6.1 billion tons of all freight.

As measured by tons-transported, the rail lines are a smaller part of the transportation pie in 1989 than in 1960, but rail lines are still the second largest part of that pie. Today's intercity, freight carrying rail lines are in better physical condition today than rail lines were in the 1960-75 years, and possibly they are in better physical condition than at any time in their history. The 40,000 miles of railroad mainlines that parallel the 40,000 miles of the Interstate Highway System, with some exceptions, were in poorer shape than the Interstates in 1965-75; but beginning about 1975, the principal rail lines began to become better physically, and the Interstates by 1975 began to deteriorate. The Interstates were then beginning to go from a "new construction ers" into a "rebuilding era" and were handling a larger part of freight volumes, and the freight carrying vehicles were competing

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WITH A DRAMATIC GROWTH IN THE NUMBER OF MOTOR VEHICLES, FROM 74 MILLION IN 1960 TO ALMOST 190 MILLION IN 1989.

THE IMPROVEMENT IN THE RAIL LINES' INFRASTRUCTURE REFLECTS AN IMPROVEMENT IN THEIR FINANCIAL CONDITIONS. THEIR BETTER FINANCIALS REFLECT LESS ECONOMIC REGULATION BY THE INTERSTATE COMMERCE COMMISSION, SO-CALLED DEREGULATION, TAX LAW CHANGES IN THE EARLY 1980S, AND THE STRONG GROWTH IN THE TRANSPORTATION OF COAL AND IN TRAILER ON FLAT CAR/CONTAINER ON FLAT CAR VOLUMES.

THOSE TRENDS IN LESS ECONOMIC REGULATION, IN TAXES, AND IN THE GROWTH OF TONNAGE SHOULD BE ENCOURAGED BY FEDERAL POLICY.

AS TO THE CONDITION OF THE HIGHWAYS, A DESCRIPTION IS GIVEN EVERY OTHER YEAR IN THE SECRETARY OF TRANSPORTATION'S REPORT TO THE CONGRESS:

> THE STATUS OF THE NATION'S HIGHWAYS AND BRIDGES: CONDITIONS AND PERFORMANCE.

IN ADDITION, THERE IS THE ANNUAL REPORT FROM THE FEDERAL HIGHWAY ADMINISTRATION ON HIGHWAY STATISTICS; AND PERIODICALLY, THE GENERAL ACCOUNTING OFFICE (GAO) REPORTS ON THE HIGHWAYS, FOR EXAMPLE, THE APRIL 24, 1990 STATEMENT TO THE SUBCOMMITTEE ON SURFACE TRANSPORTATION, COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, U. S. HOUSE OF REPRESENTATIVES.

IN MY JUDGMENT, SOME HIGHER FUNDING OF THE HIGHWAYS IS NEEDED, AND A STARTING POINT IS THE RELEASE OF THE BILLIONS OF DOLLARS ALREADY IN THE FEDERAL HIGHWAY TRUST FUND. I ALSO BELIEVE THAT THE PRESENT LEVELS OF USER PAYMENTS INTO THAT FUND SHOULD BE CONTINUED - AND POSSIBLY INCREASED FROM PRESENT LEVELS OF APPROXIMATELY $15 BILLON TO HIGHER LEVELS OF $25 BILLION PER YEAR. BUT STUDY IS NEEDED AS TO WHETHER HIGHER FUNDING FOR THE HIGHWAYS SHOULD COME FROM EITHER FEDERAL, OR STATE GOVERNMENTS, OR FROM BOTH. FOR EXAMPLE, (AND UNTIL LAST MONTH) CALIFORNIA FUEL TAXES HAVE NOT BEEN INCREASED IN ABOUT 7 YEARS AND HAVE BEEN ONLY 9 CENTS PER GALLON, A LEVEL LESS THAN THE TAXES IN ALMOST ALL OTHER STATES

AND LESS THAN HALF THE STATE FUEL TAX IN MINNESOTA. I WOULD QUESTION WHY A MINNESOTA MOTOR VEHICLE USER SHOULD PAY AN ADDITIONAL FEDERAL TAX ON FUEL WERE A CALIFORNIA USER STILL PAYING A 1982 STATE TAX OF 9 CENTS PER GALLON.

IN THE DECADES OF THE 50'S, 60'S, AND 70,S, THE FEDERAL HIGHWAY TAXES WERE ALMOST ENTIRELY FOR NEW CONSTRUCTION OF HIGHWAYS. NOW THE FEDERAL TAXES ARE GOING MORE AND MORE TO RECONSTRUCTION AND MAINTENANCE. RECONSTRUCTION AND MAINTENANCE ARE STATE RESPONSIBILITIES.

THE GAO, IN ITS APRIL 24, 1990 STATEMENT TO THE HOUSE SUBCOMMITTEE ON SURFACE TRANSPORTATION PRESENTED SEVERAL OPTIONS DEALING WITH THE REAUTHORIZATION (1991) OF THE FEDERAL HIGHWAY PROGRAM. I SUGGEST THAT THOSE OPTIONS ALSO BE CONSIDERED BY YOU. THEY ARE:

> ESTABLISH NATIONAL GOALS FOR THE MAXIMUM ACCEPTABLE LEVELS OF "POOR" OR "FAIR" PAVEMENT (AS MAINTAINED BY THE STATES);
>
> REDEFINE THE RANGE OF ACTIVITIES ELIGIBLE FOR RESURFACING, RESTORATION, REBUILDING, AND RECONSTRUCTION TO ENCOURAGE STATES TO GIVE MORE ATTENTION TO MAINTENANCE ACTIVITIES DIRECTED AT PRESERVING THE INTERSTATE PAVEMENT OR RESOLVING SAFETY-RELATED DEFICIENCIES:
>
> EMPHASIZE INTERSTATE PRIORITIES THROUGH MAINTAINING THE 90 PERCENT FEDERAL COST SHARE OF THE PROJECTS THAT HAVE NUMEROUS BENIFICIARIES, AND DECREASING THE COST SHARE OF THOSE PROJECTS THAT HAVE A LIMITED NUMBER OF BENIFICIARIES; AND
>
> REQUIRE AN ASSESSMENT OF THE EXTENT TO WHICH ALTERNATIVE TRASNSPORTATION STRATEGIES ARE EXPECTED TO ALLEVIATE THE EXPECTED SHORTFALL IN INTERSTATE LANE WIDENING AND ASSOCIATED COSTS.

ALL DATE REFERENCES IN THIS STATEMENT ARE FROM TRANSPORTATION IN AMERICA, THE ENO FOUNDATION, INC., 1989.

STATEMENT OF UNITED PARCEL SERVICE

BEFORE THE WATER RESOURCES, TRANSPORTATION
AND INFRASTRUCTURE SUBCOMMITTEE OF THE
SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

THE FUTURE OF THE FEDERAL-AID
HIGHWAY PROGRAM

3312 Broadway Street, N.E.
Minneapolis, MN 55413
July 10, 1990

Douglas T. Smalls
Vice President
Public Affairs

The Water Resources, Transportation and Infrastructure Subcommittee of the Senate Environment and Public Works Committee

United Parcel Service is pleased to offer the following comments on the future of the federal aid highway program.

United Parcel Service is the largest common carrier in the world, serving more than 180 countries and territories worldwide. We are multi-modal, utilizing road, rail, air and even on occasion, waterways, to move our customers' goods. UPS serves 1 million daily pick-up accounts and delivers more than 11 million packages each business day with over 230,000 employees from 1,750 locations in the U.S. UPS is one of the largest cargo airlines in the world, with one of the quietest fleets of any carrier, passenger or cargo.

We operate more than 100,000 vehicles per day, 59,514 delivery vans, 8,035 tractors and 36,532 trailers. These vehicles traveled over 1.7 billion miles in 1989 and in doing so used 244 million gallons of fuel. Our fuel costs for road vehicles in 1989 were $221 million dollars. We paid an additional $1,732.00 per tractor trailer unit in user fees, not including our delivery vans.

In Minnesota, UPS employs 3,955 people in 36 locations We operate 118 tractors and 1,213 package cars that

traveled over 30 million miles in 1989 to deliver 55.1

million packages. Last year, UPS paid taxes and fees of $9.2 million to the state of Minnesota.

Considering these statistics and that of other transportation companies, it is obvious that our nation's economy is dependent on an efficient and productive transportation system. The loss of jobs, the risks to air quality, the increased cost of goods, the limitations on business development...these are the real costs Minnesota, indeed every state will bear if we fail to work together to develop an effective and fiscally sound transportation policy.

You need only look around you to realize that virtually everything in sight was moved here by some form of truck. Clearly, goods movement is the linchpin of our economic vitality. But can we do it better and at less cost? UPS believes we can. And we are here today to address the major challenges that threaten our nation's transportation industry. And to offer some ideas that perhaps may help to solve these problems.

TRAFFIC CONGESTION

Although traffic congestion has been with us for some time, it has only been recognized as a serious impediment to economic growth over the last 8 to 10 years. In fact, recent public opinion surveys indicate that residents of major metropolitan areas in the United States rank traffic congestion at the top of their lists of major concerns.

While "ridership" on mass transit has been on the rise,

that increase has not kept pace with the manpower needs created by strong economic growth. Consequently, cars have become the predominate means of transportation for commuters and cars are at the core of our congestion problem.

We, too, are concerned about urban bottlenecks. We are frustrated by the utter waste of time spent sitting in traffic jams. And we are alarmed by the impact of congestion on air quality. In fact, UPS and other transportation companies have consistently supported efforts to address vehicle emission problems through better engine and fuel technology.

But the impact of traffic congestion goes beyond even the monumental problem of air quality. Congestion is also a critical liability threatening the country's economic health. And let us not fool ourselves into believing that the problem of traffic congestion is confined only to urban areas. Effective strategies also must be developed to relieve congestion found in suburban and even in some remote areas.

Traffic delays to commercial vehicles are conservatively estimated at costing carrier companies $4 to $7 billion dollars a year. The more time commercial vehicles and commuters spend on the road, the more they spend on fuel consumption. And what about the staggering loss of productivity?

In today's marketplace, businesses have come to depend on the timely pickup and delivery of packages and documents on a daily basis. It would be difficult to find a commercial

building, or even a street, that UPS drivers do not service every day.

But in order to provide the kind of service required for the economic survival of our customers, we need authorized loading and unloading spaces. Over the last five years, however, UPS and other carriers have witnessed with alarm the systematic reduction of the already scarce authorized loading and unloading spaces in all too many urban cities.

The disparity between the need for commercial parking and the supply of available spaces is so great that delivery vehicles have no choice but to risk tickets and tow-aways in order to keep their commitments to customers.

Trucking companies are currently facing city ordinances in virtually all major cities that continue to eat away at their ability to do business. These regulations run the gamut from limited hours to no parking at all on many streets.

While cities strive to attract more business, create more jobs and increase tax revenues, they have failed to address the needs of services required to support these businesses. Highways and streets remain the same; there now is a greater battle for curb space and there is little or no attention placed on how to move the added workforce created by these businesses. In some cases where cities have ignored these concerns, the reverse has happened--businesses have moved out.

A mandated policy of creating off-street parking for commercial vehicles is economically unattractive to

developers because it means the loss of prime rental space. But cities must realize and address the fact that they cannot continue to develop without providing for the services needed to support that development.

If cities continue to ignore the dependency businesses have on goods movement, the market will move. If cities continue to avoid the politically sensitive, but necessary, restriction of the automobile, they will stifle their goal of economic growth. If they continue to ignore the needs of the transportation industry, the costs associated with goods movement will be so high in those cities that the competitive edge will shift to lower-cost areas.

Traffic design, building codes and parking requirements should be balanced by an understanding of the business implications. Communities must question who will bear the increased cost of goods if parcel carrier and trucking companies are forced to pick up and deliver packages in a costly and inefficient street environment. They must ask themselves who will suffer if shortsighted traffic restrictions trigger an exodus of companies from urban areas.

Communities that fail to understand that business activity requires the parking of commercial vehicles are shooting themselves in the foot. Let's take away their ammunition by helping to formulate successful solutions that benefit both business and the community. Let's support the construction of office buildings that provide adequate curb space or off-street parking for commercial vehicles. Let's

advocate the allocation of existing parking spaces on the basis of community need, effectiveness and available alternatives.

FEDERAL HIGHWAY PROGRAM

Clearly, traffic congestion is not the only threat to our national transportation system. Better roads and bridges are essential to our economic survival. Such improvements could cut down on congestion, reduce fuel consumption, improve air quality and increase productivity.

Since budgetary constraints preclude unlimited new construction, we must also strive to boost the productivity of our existing roads and highways.

One solution is to allow the broader use of longer combination vehicles (LCVs), specifically triple 28-foot trailers. Decades of experience with triple trailer vehicles in thirteen states has demonstrated that they are economical and, more importantly, safe to operate. Such operations should be permitted only when a motor carrier establishes an extensive driver training program and rigorous vehicle preventive maintenance criteria.

UPS believes that it is time to remove the federal gross vehicle weight (GVW) rating of 80,000 pounds for vehicles operating on interstate and primary highways.

Many states are restricted by the U.S. Department of Transportation (USDOT) from increasing the GVW on interstate highways, a policy that forestalls the operation of safe and

efficient longer combination vehicles. The USDOT has long recognized--and qualified research has supported--the basic premise that axle loads, rather than gross weight, have a greater effect upon highway pavement damage. Triples have more axles, therefore the weight is more evenly distributed and the per axle load is decreased.

In fact, a study released by the Transportation Research Board (TRB) of the National Academy of Sciences on July 2, 1990 recommends that all states be allowed to establish long-term permit programs for vehicles heavier than the current 80,000 pound federal weight limit.

A companion study of the economic benefits of LCVs completed through the Trucking Institute by Sydec, Inc. demonstrates that American consumers will save $4 billion a year if long-term permit programs for vehicles heavier than 80,000 pounds are established.

UPS supports a transportation policy that encourages greater gross vehicle weight, where appropriate, with a strict adherence to the current load limit of 20,000 pounds per axle and 34,000 per tandem axle.

LCVs will decrease the cost of operations and will lessen the upward pressure on rates to shippers. Additional benefits will accrue from more efficient use of the highway system, reduced fuel consumption and fewer commercial vehicles on the highways. LCV equipment is built to a higher standard, with easier maintenance, fewer breakdowns and better performance.

For example, UPS studies indicate that triple trailers reduce fuel usage for the same gross weight by 27 percent, are easier to maneuver and are extremely safe. The latter is evidenced by the safety records of two transportation companies. UPS triple combinations traveled 30 million miles in the last three years with a single accident while LCVs in the Yellow Freight System traveled over 24 million miles in the last two years with only two DOT-reportable accidents. Yellow Freight also reports savings during that period of over 1.4 million gallons of fuel and 8 million miles of travel.

Efforts to permit broader use of LCVs have met with opposition inspired and funded, at least indirectly, by the railroads.

Driven by its concern that improvements in trucking productivity would impact the competitiveness of other modes of transportation, the railroads are trying to use Congress to prevent LCVs and to enact unfair, burdensome truck taxes which would artificially inflate truck transportation costs.

Ironically, the railroads get one-third of their business from the trucking industry, with UPS being the second largest user of the rail system. Experience over the last decade has demonstrated that a more productive trucking industry increases rather than decreases railroad revenues.

UPS believes that use of LCVs should be determined by their safety record, efficiency and whether the resulting increase in productivity will benefit the American economy.

The citizens of Minnesota and elsewhere should not be denied the advantages which may be derived from the use of triple trailers because of misguided attempts to artificially control the marketplace.

But even the most productive fleet of transportation vehicles are only as good as the highways on which they travel.

UPS believes that the Federal Aid Highway Program should continue for bridges and secondary roads off the National System to improve rural and suburban mobility. Continued maintenance of the Rural/Suburban highway systems should be left to the states. A long-term federal role in their maintenance, however, may be necessary.

HIGHWAY FINANCE

The Highway Trust Fund, which as of April 30, 1990 had a balance of $17.7 billion, was established to finance the nationwide system of streets and highways, one of the most important public investments in the United States. In recent years, however, the Fund has become a significant tool used to mask the Federal budget deficit. UPS opposes the imposition of new user fees to finance the highway system when funds already earmarked for that purpose are being diverted elsewhere.

Our transportation system is currently financed through a complex system of confusing revenue sources and mechanisms. Of the $44 billion dollars in receipts designed for highway

purposes in 1988, almost $25 billion dollars or 56 percent, was derived from highway users--primarily in the form of taxes on fuel and vehicles levied at the federal, state and municipal levels.

A major revision of the structure of highway financing was spearheaded in 1982, with the passage of the Surface Transportation Assistance Act (STAA). This act raised Federal levies on motor fuel, and changed both structure and valuation of Federal vehicle-related taxes. In response, many states have also adjusted their road taxes to meet Federal matching-fund requirements.

The taxes imposed by STAA were driven in large part by a flawed costing methodology embraced in the Highway Cost Allocation Study of 1982 (HCAS).

The trucking industry has long maintained that each class of motor vehicle should pay its fair share of highway cost based on a traditional incremental highway cost allocation approach. Until 1982, USDOT policy followed this reasonable costing approach.

The HCAS recommends a consumption highway cost approach and provides exemptions from payment for certain classes of highway users. UPS believes that no motor vehicle should be exempt from any highway user taxes by reason of ownership, or by operation on behalf of the U.S. government or any state or local government.

Highway users should be involved in establishing funding levels for the highway program and setting user charges

needed to pay for them. However, user taxes should be reasonably uniform in application and among classes of highway users. The taxes should be based chiefly on verifiable measures of highway and vehicle use, and not based on a consumption theory. The taxes should provide no opportunity for evasion and be inexpensive for government to administer, collect and enforce. Moreover, the taxes levied should not create impediments to the very important movement of interstate commerce.

Highway costs should more directly represent use. Much of the current cost allocation studies in the surface mode are based on an outdated methodology known as the AASHTO Roadtest conducted during the 1950's. It is imperative that proper contemporary models be developed that more accurately reflect the current real world costs among today's highway users.

DEVELOPING NEW HIGHWAY FINANCE PERSPECTIVES

UPS recommends that Congress explore the possibility of developing a new perspective on how highway finance issues can be addressed.

Since roads and streets are public facilities, their financing has been analyzed from a public sector perspective. However, there are strong arguments for considering a different approach, that is viewing highway finance from the private sector side.

Undertaking research and highway finance from a private sector perspective presents a number of advantages. A private sector approach may allow a more comprehensive assessment

among agencies within the different levels of government responsible for road programs.

For example, Federal roads and taxes are addressed through Federal agencies: state agencies address state roads and taxes and so forth. However, no single attempt has been made to tie these recommendations together. A private sector perspective would allow one to consider the impact of road charges imposed by various levels of government, to better understand the interaction that takes place among agencies at the Federal, state and local levels, and to recommend more systematic alternatives in light of a total financing picture for the highway system.

The 1982 HCAS adopted the cost occasion approach or the consumption theory as the appropriate economic basis for assigning user charge responsibility among user classes. It was felt by USDOT that not only does this approach agree with the principle of financing Federal and state roads through user charges, but it also could be quantified with a set of practical tax recommendations. However, the cost-occasioned approach or consumption theory is not the only economic alternative for highway finance nor the fairest. UPS believes that the incremental approach has considerable merit.

There are some who support the theory that users of the highways derive immediate and special benefit from such use and accordingly should be called upon to pay all or most of the cost of highways. And there are those who emphasize the general benefit of highways, placing expenditure for roads in

the class of schools and protection. Because this latter position is shared by many citizens, it is arguable that roads should be supported from funds derived from general taxation.

UPS believes that each of these contending views has a measure of justification. They are not mutually exclusive but complementary. While it cannot be denied that highways furnish a general benefit to the public at large, it is also true that the users of the roads realize a special benefit that justifies the payment of a special tax. The main issue is whether such a special tax levy in the form of a motor fuel, motor vehichle, and similar taxes represents a reasonable contribution toward the cost of road construction and maintenance.

Associated with these questions are the issues of who benefits and who pays when calculating the tax burden. Federal transportation policy needs to take into account the changing structure of the transportation industry itself, including future trends in productivity and the growing number of intermodal operations.

UNIFORMITY

There is a constitutionally-mandated Federal interest in interstate commerce and in the removal of impediments to its efficiency. However, in the absence of Congressional direction, the courts have been responsible for ruling on the merits of state motor carrier requirements. Federal policy

should take a more aggressive stance in monitoring and forcing compliance in those states that impose impediments to the free movement of interstate commerce.

Current requirements imposed on interstate motor carriers have evolved over the past 60 years from simple registration of vehicles to a complex structure involving registration, fuel taxes, privilege and use, property taxes, ton mile taxes, weight distance taxes, and gross receipts taxes, and implementing safety programs. Along with the multiple fees have come a myriad of administrative requirements. As these fees and requirements are multiplied, their impact on interstate carriers and their service to rural America has become increasingly burdensome.

The states that have imposed these requirements have faced the problems of non-uniformity throughout the past five decades and while some states have initiated steps to attain uniform procedures to motor carrier transportation, a significant number have not.

The Federal transportation policy should include development and implementation of the standards for uniformity of motor carrier regulations. This can be accomplished without singling out an individual state for reform. States are best suited to define their own revenue needs and consequently their own tax rates. However, it should be done within the confines of an efficient and equitable system. The system should be developed with Federal oversight, through a cooperative effort by the states and the

motor carrier industry. Once developed, it could be implemented at the national level.

In the area of vehicle registration and fuel taxes, we recommend a more public-private partnership approach to the maze of requirements imposed. This could be accomplished with industry representatives over a period of time under Federal sponsorship. The Federal criteria used to guide a task force could require certain uniform objectives to be met, including base state certification; payment to the base data fees and taxes due to other states, inequitable distribution of revenues among states; the standardization and consolidation of forms; a single contact point within each state for application and filing; and elimination of fees paid for identification stickers, plates or other indicia.

SAFETY

One of the most effective efforts that can be made to enhance the safety of truck operations is to strengthen the Federal-state partnership that exists under the Motor Carrier Safety Assistance Program (MCSAP).

To reduce the problem of regulatory inconsistencies, each state should be encouraged to adopt the Federal Motor Carrier Safety Regulations (FMCSR). For those states that have adopted the FMCSR, USDOT should review more closely how the state adheres to the regulations. This should include a review of the safety requirements imposed by other levels of government within the state.

UPS supports increased enforcement of safety regulations. We invite close inspection of operations. However, we caution that problems may be encountered where motor carriers are subjected to improper interpretations of regulations, punitive fines and time-consuming audits.

In the area of hazardous material transportation, the need for uniformity among states and rural localities is critical. The movement of small quantities of hazardous material in UPS vehicles has placed serious constraints upon our operation through tunnels and in smaller metropolitan and rural areas.

We are besieged with varying rules and regulations on this subject. UPS is hopeful that USDOT will act to protect transporters of small quantities in non-placarded loads and assure safe and prudent hazardous materials regulations.

SUMMARY

We are at a "crossroads" in our nation's transportation history. Our economic survival rests on the willingness of the public and private sectors to work together to develop a national transportation program that takes into account the changing structure of the transportation industry. That considers America's transportation needs into the 21st century. And that addresses financing issues with creative--and equitable -- solutions. Many avenues are open to us. Let's choose the next path carefully. It is one we may have to live with for many decades to come. Thank you.

RUSSELL THOMPSON

DIRECTOR OF TRANSPORTATION, CENEX/LAND O'LAKES

TESTIMONY TO MEMBERS OF THE U.S. SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

JULY 10, 1990

—

ST. PAUL, MINNESOTA

Russell Thompson
Director of Transportation, Cenex/Land O'Lakes

Testimony to Members U.S. Senate Environment and Public Works Committee
July 10, 1990
St. Paul, Minnesota

Rural Transportation

*INTRO
*Russell Thompson, Director of Transportation for Cenex/Land O'Lakes Ag Services
*Chairman, Mountain Plains Consortium Advisory Council
*Serve on the Board of Directors, University of Minnesota Center for Transportation Studies
*Cenex is a Fortune 250 agricultural supply firm serving 600,000 farmers in 15 states.
*We sell over $1 billion annually in fuel, fertilizer, feed, seed and other farm inputs.
*Integrated oil company with a 40,000 barrel per day refinery in Laurel, Montana.
*One of the largest privately owned trucking fleets in the Upper Midwest, hauling fuel, anhydrous ammonia, propane, feed and dry freight.
*Primary routes are the interstate highways and backroads of rural America, from Wisconsin west to Washington state; south into Iowa, Nebraska, Wyoming and Oregon.

*It's a pleasure to be here.

*International competitiveness and balance of trade are two issues we all think of daily
  *Agriculture is America's single largest export
  *US agricultural exports in 1989 represented $40 billion, or 11% of total US exports
***YET OUR LACK OF A CONSISTENT MULTIMODAL TRANSPORTATION PLAN AND POLICY PENALIZES AGRICULTURE AND RURAL AMERICA.**
  *America is the largest exporter of farm products in the world. One of every three acres is grown for export. Yet, our transportation system makes it harder than ever to get that crop to market.
  *Agriculture is freight-intensive
  *Agriculture is remote, and particularly dependent on transportation

*Transportation is a large percentage of ultimate product cost.
*Agricultural products are extremely heavy which increase market access costs.

WE ARE PENALIZING PRODUCTIVITY

*Technology has enabled American farmers to be the most productive in the world. Yet, getting that product to market cost-effectively is a stumbling block.

FOR EXAMPLE:

*Bovine SomatoTropin, or BST, is a new genetically engineered growth hormone that will increase cows' milk production by 15%. Yet, our milk trucks are already 20 times too heavy for the roads they depend upon. Most rural roads were built for cream cans, yet US average milk production has tripled from half as many cows. This means larger farms, further distances between them with heavier trucks.

*We are penalizing productivity! HOW?
Because a portion of road funding is based on population density and economies of scale, we are penalizing the sector that contributes the most to our exports.
*Agricultural production has more than doubled since 1930-- AND with one-fourth the farm population of 1930.
*However, accomplishing this has required 2.2 times the amount of inputs as 1930.
This means we are hauling twice as many inputs to these farms, and they in turn are shipping out twice as much product to market, but on roads built to handle loads of 40 years ago.

*So we are increasing our demands on the rural transportation system at a time when diminishing rural populations trigger reduced rural funding for that critical system.

* In short, the breadbasket of the world is pricing itself out of existence.

*Although more money is the most often proposed solution to the problem, I'm here to suggest there have to be ways to work smarter; i.e.:

1. Develop an integrated transportation plan and policy.
2. Make transportation regulations more uniform from state to state.
3. Realize that by allowing rural transportation to continually grow more expensive, we are further concentrating population in urban centers, which already have more than their share of social problems.

4. At a time when we are able to put men on the moon, we are not broadening our vision to properly manage our transportation resources. This is more than an embarrassment--it is like playing Russian roulette with our very future!

SOLUTIONS? **HERE ARE FIVE:**

I. DEVELOP A COMPREHENSIVE TRANSPORTATION PLAN AND POLICY

I maintain that we lack a comprehensive transportation plan and policy.

*The Skinner report is a euphemism for a transportation policy. It's thin on solutions, especially in regard to our more sparsely populated rural areas:

*Greater reliance on local revenues, user fees and private capital does not make sense in these areas. Economies of scale continue to penalize our most productive industry: agriculture.

*Farmers now represent only 2% of our population, yet agriculture accounts for 17% of our GNP and 11% of our exports.
*FARM PRODUCTIVITY HAS GAINED DRAMATICALLY
*In 1986, US farmers produced 40% more output per crop acre than they did only two decades earlier.
*One farmer feeds 100 people, and this will double by the year 2000.

*In 1987 alone, 38,500 American farms went out of business. This attrition will continue, and as fewer but larger farms produce more of our food, the conclusions of the Skinner report fail to adequately address our agri-business opportunities and challenges.

If we were talking about a major manufacturer with a division that represented 2% of our workforce, yet producing 17% of that company's product value and 11% of sales in a fiercely competitive market, there would be no question of that division receiving the necessary level of support to <u>at least</u> maintain such performance.

II. A TRANSPORTATION PLAN AND POLICY MUST CONSIDER INTEGRATION

*Look at the big picture. The Skinner report identifies shortcomings, but offers no vision especially on potential funding. It's like making a to-do list but never getting out of bed in the morning.

*Deregulation is not allocating transportation resources effectively in rural areas.

* A wheat farmer in North Dakota many times trucks grain all the way to the Pacific Northwest because it's up to 20% cheaper than loading it onto a railcar, which would cause less wear and tear on our roads. Or, he's lost his rail service and has no choice. This reflects a lack of system integration.

*WHAT IS THE CAUSE OF OUR CURRENT DISJOINTED POLICY:

1. Special interests/politics versus needs-based thinking
2. Lack of accountable management. Government should have to operate the same way business does: make a plan, project a budget, and stick to it. Raising taxes or shifting them to local government does not solve the problem if there's no vision to begin with.
3. The Federal government has abdicated responsibility for a rural transportation plan and policy, by making it every man for himself.

*EXAMPLE OF DISJOINTED POLICY:

*Large elevator in Swanton, Nebraska, (in southeast Nebraska) lost its rail line six years ago. Now, this elevator ships 3 million bushels annually by truck to Lincoln--50 miles away. Since it takes four trucks to equal one rail car, you can imagine the added wear and tear on those roads. More importantly, this adds 10 cents a bushel, or 20%, to the farmer's cost of transportation.

I'm talking about a lack of accountability in government. It's plain poor management, and it wouldn't wash in business. If my plan fails, I can't ask for more money. I lose my job, and someone replaces me who can handle the challenge.

*I favor a transportation plan and policy that has as one of its aims the assurance of safe, efficient, dependable and competitive transportation services for rural America.

*As such, that is not happening. Secretary Skinner says in his report that "We need to focus our investment dollars on the areas with **highest payback.**" That easily could preclude the rural transportation infrastructure. Just as our nation's reduced R&D investment has taken some years to show up in worse balance of trade, so too will skimping on rural transportation.

III. *VIEW RURAL TRANSPORTATION AS A UTILITY VS. EVERY MAN FOR HIMSELF

*The present system rewards critical mass, not productivity. While fewer farmers produce more goods, their effective contributions to America's competitiveness is seriously hampered because we are

falling behind in giving them the transportation linkage they need.

*I find irony in the Soviets' push to modernize its transportation infrastructure at a time when we abdicate responsibility for ours.

*For example:

*The Soviet Union has only one-third the miles of railroad track that America has, even though it's the size of America and Canada combined.

*The Soviets have less than one-fourth the miles of highways that America has, and most of those are ill-equipped to handle heavy trucks.

*The Soviets say it will take more than a decade to remedy the transportation weaknesses responsible for bottlenecks and economic disruption.

*Similarly, South American soybean growers are American soybean growers' primary competitors, since their costs of land, labor, and inputs are cheaper.

THE MAIN REASON WE RETAIN OUR COMPETITIVE EDGE IS OUR ECONOMIC STABILITY AND RURAL TRANSPORTATION INFRASTRUCTURE.

IV. AVOID POPULATION BIAS:

*USER FEES may make sense in densely populated California. But the federal funding formula rewards heavily traveled roads.

*WEIGHT-INTENSIVE: Agricultural commodities are heavy. For longer distance movements, it would make the most sense to ship them by rail or barge. Yet, because rural areas have so few transportation options, many commodities go by truck, either accelerating the decline of existing roads or increasing the cost of delivery because of extensive rather than intensive shipments. Almost all rural roads were not built to handle 10-ton axle loads.

EXAMPLES:

*In Minnesota alone, we've lost more than half of our miles of rail (9500-4600).

*One of every three acres in Swanton, Nebraska is exported. Yet, the region lacks the critical mass to reinvest in its transportation infrastructure, by Secretary Skinner's formula.

*While the 12 Midwestern states contain almost one-third of the nation's interstate highway mileage, they received less than one-fifth the federal interstate monies in fiscal year 1990.

*WEATHER WEAR: Add to this the impact of freeze-thaw cycles of northern climates which exact their own toll on transportation infrastructure, and you've got a double whammy.

*END OF THE LINE: the Upper Midwest is at the end of the line. It's at the northern end of the rivers, and the far end of the Great Lakes. So we are more dependent upon transportation and pay more for it.

*EXPENSIVE: A federal study has shown that operating a tractor trailer on a road in only fair condition costs 6.3 cents per mile more than driving it on a good road. That costs the farmer money, and it costs the consumer money. Assessing the remaining farmers to upgrade their "fair" roads is not realistic.

*In western Nebraska, bad roads costs growers an extra $300,000 annually, according to local chambers of commerce there.

*I WAS ASKED TO ADDRESS how transportation users make trade-offs between different modes. **ACROSS MOST OF OUR TRADE AREA, THERE ARE NO OPTIONS.**

*Look at the airline industry which has been deregulated the longest. It's been great for reducing rates on heavily traveled routes. But the flip side is that Cenex/Land O'Lakes pays double and triple airfares simply to do business in our trade area. For example, I can fly from Minneapolis to London for less than flying almost anywhere in our trade area. A few examples:

Mpls to Chicago, IL	(400 miles)	$138
Mpls to Orlando, FL	(1500 miles)	$249
Mpls to London, England	(4000 miles)	$558
Mpls to Pasco, WA	(1500 miles)	$800
(where we have a major transportation terminal)		
Mpls to Billings, MT	(750 miles)	$820
(our refinery and the heart of our trade area)		
Mpls to Williston, ND	(625 miles)	$864

*Mesaba Airlines is currently giving up five cities.

*Can't afford to do business in our own trade area
OR
you simply can't get there from here.

*When I need to do business with our transportation terminal in Billings, MT, I either pay $800, I consider driving for two days, or I don't go. Obviously these costs affect business decisions on plant and facility locations.

V. REGULATE SMARTER, NOT MORE

We must have uniformity from state to state.

Currently we have a myriad of weight, length, safety, licensing, and bridge regulations established by each state.

*EXAMPLE: Idaho and Montana allow triples, yet Minnesota outlaws them.

* Each state we go into requires a different formula for fuel tax reporting.

WHAT IS THE COMMON DENOMINATOR FOR A TRUCK TO GET FROM THE WEST COAST TO THE EAST COAST? WE MUST ESTABLISH ONE.

* I see government substituting regulatory activity for vision. Instead of painting a big picture, it generates a flurry of paperwork.

*EXAMPLE: To get a truck from Aberdeen, S.D. to Pennsylvania, we have to talk to 15 different people to obtain proper permits. Yet we call it a federal highway system. As I said earlier, weights and bridge laws are so erratic that it is difficult to use the same rig from one state to another.

*Minnesota's weight limit is 80,000 lbs., North Dakota is 105,500 lbs., South Dakota is 106,000 lbs. These are adjoining states!!

*EXAMPLE: The Applegate bill (HR 2584) pending in the House would require Cenex/Land O'Lakes to file notice of intent to haul hazardous substances. That act alone stands to cost Cenex/Land O'Lakes $7 million. I understand the Senate has grave concerns over this proposed legislation, and well it should have.

*STARBURST EFFECT: Imagine a 11,000-gallon tanker leaving our refinery. It would have to file paperwork for that load.

*Then it drops a load at our first jobber. That jobber, in turn, has to file paperwork for each 500-gallon drop to its farm customers.

*This shows an absence of cost-benefit thinking. What have we gained with this new layer of bureaucracy?

*If it will cost Cenex/Land O'Lakes $7 million, what will it cost the consumer?

*I would ask that we trust competent drivers, just as we trust competent 747 pilots, rather than encumber them.

*Just as our country is taking a "results" approach to education, I ask you to do the same with transportation.

DEFICIENCIES

*In summary then, the deficiencies I see are:

1. No comprehensive transportation plan and policy.

2. Politics, rather than needs, often dictate transportation policy, resulting in a fragmented system.

3. The result is no synergy among transportation modes.

4. Sparsely populated areas, which contribute disproportionately to our exports, are penalized for their productivity. As we see robots, genetic engineering, and artificial intelligence further reducing farm manpower needs and multiplying farm production exponentially, this imbalance will grow.

5. The high cost of rural transportation has polarized population distribution. We will not solve any of our urban social problems by encouraging further migration.

6. Lack of accountable management by government.

*Is rural transportation another economic variable, or is it also a utility? If it costs us four times normal rates to serve Whitewater, Montana, you are effectively shutting down that region economically.

*By abdicating instead of developing a comprehensive transportation plan and policy, we are choking the source of our biggest export--agriculture.

*I ask for a stronger coordinating federal role, continued local discretion, and that you reconsider your funding formulas.

U.S. Senate Environment and Public Works Committee Hearing
Testimony of
Michael J. Ehrlichmann, Chair, Regional Transit Board
July 10, 1990 - Minnesota State Capitol

Thank you, Senator Durenberger, and thank you for this opportunity to take part in today's hearing. As Chair of the RTB, the Regional Transit Board, I come before you as a representative of transit for the Minneapolis-St. Paul, seven-county metropolitan area. The RTB is the metropolitan government agency that coordinates the planning and financing of new and existing transit services. The RTB also administers contracts with transit service providers.

We've entered a new era in transit, with challenges as we've never known them before.

Local congestion is increasing at a rate of four percent each year. We need to get people out of their private automobiles and onto transit. It used to be that transit services operated much like a utility. Transit was provided and people used it. Now there are fewer zero- and one-car families. Transit is competing with the automobile and, as you know, the auto industry spends millions of dollars on advertising each year. It is time for us to advertise and market the benefits of transit.

Another challenge looking us in the eye is our environment. Just this year, a consortium of respected scientists from around the world confirmed what many had feared. Global warming was identified as the number one threat to the planet Earth. The greatest offender is the United States. And the greatest contributor to global warming is fuel emissions.

The warning signs have arrived, changing the role of transit. Transit isn't just a mere transportation alternative in our automobile-based American society. Transit is now a necessity--a way of prolonging the life of our global environment.

The smogless Twin Cities you see today--an increasing population, with a healthy economy and a hotbed of business and industry growth that creates jobs--is being threatened by gridlock traffic, reduced air quality, and increased risk to public safety due to more vehicles traveling our roadways. The local quality of life enjoyed here is in danger for these reasons.

Now, more than ever, transit is important in the Twin Cities metropolitan area. But transit must have more federal government support. Transit should receive as much funding as highway construction. Transit agencies, such as the Regional Transit Board, are working to preserve the "livability" of metropolitan areas. The RTB and local taxpaying public are doing more than their fair share. The federal government is not; nor is it giving us the aggressive leadership that is needed. It is time for the federal government to make transit funds as readily available as highway funds.

Perhaps it was best said by Oregon Governor Neil Goldschmidt, the former Secretary of Transportation, earlier this year, quote--

> *"If the President was serious about improving air quality and improving quality of life, he would not continue to reduce the federal investment in public transit...*
>
> *President Bush's transportation plan is not a policy. It is a surrender of the federal government's role as the state's partner in insuring the economic viability of our nation."* End quote.

Locally, the RTB is aggressively finding and using transit planning innovations in order to meet today's transit demands. Before large sums of money finance major transit projects, the RTB conducts thorough research and demonstration models to prove--or disprove--that an investment is worthwhile.

For example, the RTB conducts extensive travel demand management studies, which aim to reduce one-person car trips. One is going on right now at one of the highest-generating traffic sources in the region--the University of Minnesota campus. Travel flow problems and corrective strategies are identified. Among the possibilities being examined: preferential parking incentives for car pools, deeper discounts on transit fares for students, and designated drop-off points in campus areas for car-pooling students and faculty. The close association the RTB built with University officials has been fundamental for success in this project.

The RTB is currently studying an emerging travel pattern called the reverse commute. Reverse commute is opposite of the traditional commute of driving from the suburbs-to-city to get to work. More people are urban-dwellers who exodus from downtown areas for suburban employment sites. The RTB is developing ways of making it more attractive for these reverse commuters to take transit. We're doing so by focusing on some of our best customers, the transit-dependent,...or,...those people who rely on transit as their only means of transportation. Historically, transit-dependent people live in urban areas and take transit because they cannot afford to own their own cars.

The RTB is pinpointing urban, transit-dependent populations and clusters of suburban employment sites that represent a large and growing number of jobs. There are now more than 30 reverse-commute bus routes, but the RTB wants to create more; effectively linking transit-dependent neighborhoods with suburban employers. The RTB believes there are some promising implications--specifically, a whole new dimension of employment opportunities and economic growth. Better job opportunities and a chance for personal development shouldn't be denied someone for lack of owning a car.

The RTB continues to assist local units of government in efforts to publicize, promote and expand community-based transit services. The Minnesota Legislature enabled municipalities to take this initiative of planning their own transit service. These suburban area systems are vital in either directly transporting people to key areas in the metropolitan region, or work as "feeders" to other suburban systems, or the larger service area of the Metropolitan Transit Commission. RTB planners advise communities within the seven-county area.

Incidentally, there are 181 cities, communities, or townships in the region. In order to increase communications with these communities, the RTB has established a network of transit liaisons. A transit liaison is a key contact the RTB has in each municipality. The liaison is responsible for keeping the RTB apprised of important, transit-related concerns of the community. Likewise, the RTB is responsible for keeping the liaison informed of significant actions and issues that may affect that community.

And in a state that was built by railroads, the RTB is bringing Minnesota full-circle by promoting light rail transit as an important, essential component of the metropolitan area's regional transit system. The project has been painstakingly planned over the past two decades. It's a prominent legislative issue. The news media's spotlight on LRT encourages greater awareness of the importance of transit in Minnesota's future. Once LRT is in place, regional

transit will likely experience a boon, as LRT has the proven ability elsewhere of transforming much of the car-driving public into transit passengers.

And there are many more efforts underway: more park-and-ride facilities,...metered ramps and HOV lanes,...streamlined operations of Metro Mobility, the regional paratransit program. New, state-of-the-art, lift-equipped buses are now being introduced into regular route service. The Twin Cities metropolitan area is taking the initiative, before the Americans with Disabilities Act becomes law.

Increasing transit efficiency and transit awareness have been the most critical influences that will entice more people into taking transit. But now there is a new influence: our environment is hanging in the balance. The continued proliferation of pollutants from automobiles and resulting degradation of our atmosphere have future generations in jeopardy.

In closing, allow me to share my vision for the future. Transit is competitive with the automobile. Traffic congestion, pollution, and yes, even the previously eccentric notion of global warming is forcing more Americans to become transit passengers. Minnesota is among the nation's leaders in this concern, because right now, we have a coalition among state, regional, and local governments that endorses a multi-modal transportation system in the metropolitan area.

The RTB is continuously working at developing a regional transit system that meets the public's demands for convenience, comfort, reliability and cost-effectiveness. The RTB wants to maintain a transit system that the population will not outgrow. And in the process, the RTB is a steward of tax dollars by making transit investments wisely.

But more federal help is needed to promote, publicize, plan and build transit for the 21st century.

Please help us preserve the metropolitan area you see here, in the Twin Cities region, today.

Thank you.

- end -

TESTIMONY OF

DONN R. OSMON

GROUP VICE PRESIDENT

TRAFFIC & PERSONAL SAFETY PRODUCTS GROUP

3M

TO

SENATE ENVIRONMENT & PUBLIC WORKS

COMMITTEE

JULY 10, 1990

ST. PAUL, MINNESOTA

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THANK YOU, MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE.

MY NAME IS DONN OSMON. I AM GROUP VICE PRESIDENT OF THE TRAFFIC AND PERSONAL SAFETY PRODUCTS GROUP AT 3M. WE ARE A SUPPLIER TO THE TRAFFIC MANAGEMENT AND TRANSPORTATION INDUSTRIES.

I'M SURE THAT AFTER LISTENING TO THOSE WHO HAVE PRECEDED ME THIS MORNING, YOU AGREE: THE "CONGESTION VIRUS" THAT USED TO BE CONFINED TO THE URBAN CENTERS OF THE EAST AND WEST COASTS NOW INFECTS NEARLY EVERY METROPOLITAN COMMUNITY IN THE NATION. THREE QUICK STATISTICS PAINT THE PICTURE CLEARLY:

- IN THE PAST 15 YEARS, THE NUMBER OF VEHICLES ON OUR NATION'S ROADS ROSE BY 63-PERCENT;

- AT THE SAME TIME, THE AVERAGE MILEAGE PUT ON EACH VEHICLE INCREASED FIVE-PERCENT PER YEAR;

● DURING THAT SAME 15-YEAR PERIOD, TOTAL ROAD AND STREET MILEAGE ROSE BY ONLY FIVE PERCENT. THAT'S FIVE-PERCENT FOR THE ENTIRE 15-YEAR PERIOD!

SO, THERE'S NO REAL MYSTERY TO THE PHENOMENON WE'VE COME TO KNOW AS "GRIDLOCK." WE SIMPLY HAVE TOO MANY VEHICLES FOR THE PRESENT ROAD SYSTEM.

THE OVERALL DIRECTION OF TRANSPORTATION POLICY IN THE UNITED STATES MUST CENTER ON CONTINUED FUNDING FOR CONSTRUCTION, SAFETY AND MAINTENANCE OF AN EFFICIENT HIGHWAY SYSTEM.

IN THE NEAR TERM, THE NEXT 5 TO 10 YEARS, WE MUST ALSO FOCUS ON BETTER USE OF OUR ROADS ... THE CAPACITY ISSUE ... AND SAFETY, PARTICULARLY FOR OUR OLDER DRIVERS.

MY REMARKS WILL BE DIRECTED TO OUR RESEARCH IN THESE TWO AREAS.

FIRST, ON MAIN URBAN ROADS, SIGNAL MANAGEMENT CAN IMPROVE TRAFFIC FLOW BETTER THAN ANY OTHER EXISTING TECHNOLOGY.

SIGNAL SYNCHRONIZATION SYSTEMS HAVE EXISTED FOR DECADES. THESE SYSTEMS ARE BASED ON SENSORS -- COMMONLY CALLED "LOOP DETECTORS" -- EMBEDDED IN THE PAVEMENT TO DETECT VEHICLES IN A GIVEN LANE. THEY INTERFACE WITH SIGNAL CONTROLLERS TO CONTROL TURN SIGNALS, AND THE LIKE.

HOWEVER, RECENT RESEARCH AT 3M HAS LED TO DEVELOPMENT OF A MORE SOPHISTICATED, "MORE INTELLIGENT" VEHICLE DETECTION SYSTEM CAPABLE OF RECOGNIZING "REAL TIME" TRAFFIC CONDITIONS.

THIS ADVANCED TECHNOLOGY INSTANTLY COORDINATES SIGNALS TO COMPENSATE FOR TRAFFIC CONDITIONS AT THAT MOMENT. THE RESULT IS SUBSTANTIALLY IMPROVED TRAFFIC FLOW THROUGH TRADITIONALLY CONGESTED ROUTES.

AND SUCH "REAL TIME" VEHICLE DETECTION SYSTEMS HAVE APPLICATION POTENTIAL BEYOND SIGNALIZED ROADWAYS. VERY SOON, WE LIKELY WILL SEE THEM USED FOR MONITORING TRAFFIC CONDITIONS ON METROPOLITAN AREA FREEWAYS. THE DATA THEY SEND TO TRAFFIC MANAGERS WILL INSTANTLY BE USED TO DIRECT MOTORISTS TO LESS-CONGESTED ROUTES.

SECOND, AS URBAN ROADS BECOME EVERMORE CONGESTED, THERE'S ALSO INCREASING CONCERN ABOUT THE ABILITY OF EMERGENCY VEHICLES TO EFFECTIVELY RESPOND TO CALLS.

THE TWO PRIMARY FACTORS IN EMERGENCY RESPONSE TIME ARE THE ORIGINAL LOCATION OF EMERGENCY EQUIPMENT ... AND THE AMOUNT OF TRAVEL TIME TO THE EMERGENCY SCENE.

JUST LIKE INDIVIDUAL COMMUTERS, EMERGENCY RESPONSE VEHICLES ARE AFFECTED BY ROADWAY CONGESTION, CAPACITY PROBLEMS AND, IN THE WORST CASES, "GRIDLOCK."

-8-

THE 3M EMERGENCY RESPONSE MANAGEMENT SYSTEM OVERRIDES TRAFFIC SIGNALS, PROVIDING GREEN LIGHTS FOR TRAFFIC MOVING WITH EMERGENCY VEHICLES AND RED LIGHTS FOR PERPENDICULAR TRAFFIC.

THE SYSTEM PROVIDES VEHICLES IN THE PATH OF THE EMERGENCY RESPONSE UNIT THE ABILITY TO MOVE OUT OF THE WAY, INSTEAD OF CLOGGING INTERSECTIONS.

THE SYSTEM ALSO MAKES FOR SOUND RISK MANAGEMENT. BY "ANTICIPATING THE UNEXPECTED," IT REDUCES THE CHANCES OF ACCIDENTS BETWEEN EMERGENCY VEHICLES AND CROSSING TRAFFIC, SINCE THOSE VEHICLES AUTOMATICALLY RECEIVE A RED SIGNAL.

3M PIONEERED THIS PROVEN, SAFE TECHNOLOGY, AND THE RESULT IS A SAFER ROADWAY ENVIRONMENT AND REDUCED EMERGENCY RESPONSE TIME.

AT THE PRESENT TIME, THIS TYPE OF EQUIPMENT DOES NOT QUALIFY FOR FEDERAL HIGHWAY FUNDING. YET IT REMAINS ONE OF THE LOWEST COST, MOST EFFICIENT METHODS FOR IMPROVING TRAFFIC FLOW FOR OUR FIRE, AMBULANCE AND POLICE DEPARTMENTS. WE WOULD ENCOURAGE THE COMMITTEE TO INCLUDE SOME FUNDING MEASURES FOR THESE SYSTEMS IN THE NEW HIGHWAY BILL.

THIRD, ANOTHER TREND WE'RE SEEING IS A RESURGENCE OF TOLL ROADS AS A MEANS OF FUNDING NEW CONSTRUCTION AND MAINTAINING EXISTING ROADWAYS. IT APPEARS THE PUBLIC IS BECOMING MORE ACCEPTING OF TOLL ROADS AS A MEANS OF PROVIDING THE KIND OF SURFACE TRANSPORTATION SYSTEM THAT WE'VE COME TO EXPECT.

HOWEVER, ONE "DOWNSIDE" OF TOLLWAYS ALWAYS HAS BEEN THE ACTUAL TOLL TRANSACTION. IT'S A PROBLEM EXACERBATED BY TODAY'S OVERCROWDED ROADWAYS, WHERE TOLL PLAZAS CREATE TRAFFIC JAMS.

AUTOMATIC VEHICLE IDENTIFICATION -- OR AVI SYSTEMS -- CAN GREATLY REDUCE CONGESTION AT TOLL PLAZAS BY INCREASING THE SPEED AT WHICH VEHICLES CAN PASS THROUGH AND ELIMINATING THE MANUAL "TRANSACTION."

AT 3M, WE HAVE AN AVI SYSTEM FOR TOLL COLLECTION THAT WORKS BY ATTACHING A PASSIVE TRANSPONDER TO A VEHICLE. EACH TRANSPONDER IS ELECTRONICALLY ENCODED TO PROVIDE A UNIQUE IDENTITY WHICH SERVES AS AN "ACCOUNT NUMBER."

VEHICLES EQUIPPED WITH TRANSPONDERS THEN USE PRIORITY, HIGH-SPEED, AVI LANES AT THE TOLL PLAZA. A VERY LOW POWER RADIO FREQUENCY READER ADJACENT TO THE ROADWAY CAPTURES THE ACCOUNT NUMBER AND CHARGES THE USER'S CREDIT CARD OR DEBITS A PREPAID ACCOUNT.

A 3M AVI SYSTEM IS BEING INSTALLED ON DENVER'S NEW E-470 EXPRESSWAY. SPECIALLY DESIGNED "EXPRESSTOLL" LANES WILL ALLOW AVI CUSTOMERS TO PASS THROUGH TOLL PLAZAS AT NEAR-NORMAL HIGHWAY SPEEDS.

AVI ALSO HAS OTHER, BROAD TRANSPORTATION APPLICATIONS SUCH AS ACCESS CONTROL AND FLEET MANAGEMENT.

THE NET RESULT OF THESE EFFICIENCY IMPROVEMENTS IS LESS CONGESTION, LESS FUEL CONSUMPTION, LESS POLLUTION AND HAPPIER MOTORISTS.

FINALLY, A FEW COMMENTS ABOUT WHAT WE SEE AS ONE OF THE MOST IMPORTANT TRANSPORTATION ISSUES FACING US TODAY: THE AGING DRIVER.

THE "GRAYING OF AMERICA" ALREADY IS HAVING, AND WILL CONTINUE TO HAVE, BROAD SOCIAL AND ECONOMIC IMPACTS ... AND TRANSPORTATION, OR THE "RIGHT OF CONTINUED MOBILITY," IS CERTAIN TO BE AN ISSUE.

OLDER PEOPLE TODAY ARE HEALTHIER AND MORE ACTIVE THAN EVER BEFORE ... AND THERE ARE MORE OF THEM. IN FACT, THE FASTEST-GROWING SEGMENT OF OUR POPULATION IS THE OVER-85 AGE GROUP.

AND WITH THE MAJORITY OF ELDERLY AMERICANS NOW RESIDING OUTSIDE OUR CENTER CITIES, OLDER PEOPLE HAVE BECOME MORE DEPENDENT ON THEIR AUTOMOBILES THAN EVER BEFORE.

UNFORTUNATELY, NOT ALL COMPONENTS OF OUR ROAD SYSTEM ARE DESIGNED TO ASSURE THE UTMOST SAFETY OF THIS GROWING SEGMENT OF THE MOTORING PUBLIC.

FOR EXAMPLE, MANY OF US ARE FAMILIAR WITH THE PROBLEM OF DETERIORATING NIGHT VISION. IT'S MEDICAL FACT: THE OLDER WE GET, THE MORE LIGHT OUR EYES REQUIRE TO EFFECTIVELY SEE AT NIGHT. ON AVERAGE, WE NEED TWICE AS MUCH LIGHT WITH EVERY 13 YEARS OF AGE.

EFFORTS MUST BE MADE TO PROVIDE THE VERY SAFEST DRIVING ENVIRONMENT FOR EVERYONE WHO USES OUR ROADS, REGARDLESS OF AGE.

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ACCORDING TO "TRANSPORTATION IN AN AGING SOCIETY," A 1988 REPORT BY THE TRANSPORTATION RESEARCH BOARD, IMPROVING ROADWAY SIGNING -- PARTICULARLY MAKING SIGNS BRIGHTER -- AND IMPROVING PAVEMENT MARKINGS ARE PRIMARY STRATEGIES THAT CAN AID THE GROWING NUMBER OF OLDER DRIVERS.

THE OLDER DRIVER PROBLEM IS A NATIONAL ISSUE. HOWEVER, ITS GREATEST SIGNIFICANCE IS FELT IN NORTHERN TIER STATES, WHERE FOUR OR FIVE MONTHS A YEAR PEOPLE HAVE NO CHOICE BUT TO DRIVE IN DARKNESS TO AND FROM WORK OR FOR AN EARLY MORNING OR LATE AFTERNOON APPOINTMENT.

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AT 3M, WE ARE BEGINNING TO INTRODUCE -- AFTER NEARLY TWO DECADES OF RESEARCH AND DEVELOPMENT -- A NEW REFLECTIVE SIGNING MATERIAL THAT IS NEARLY 400 PERCENT BRIGHTER THAN THE PREVIOUS BRIGHTEST MATERIAL AVAILABLE. THIS NEW PRODUCT WILL GREATLY ENHANCE NIGHTTIME VISIBILITY FOR OLDER DRIVERS. IT WILL BE ESPECIALLY EFFECTIVE ALONG TODAY'S URBAN RIGHTS-OF-WAY WHERE TRAFFIC SIGNS MUST COMPETE FOR THE DRIVER'S "VISUAL ATTENTION."

WE ARE DEVELOPING IMPROVED PAVEMENT MARKING PRODUCTS -- BOTH BRIGHTER AND MORE DURABLE -- THAT WILL MORE EFFECTIVELY AND SAFELY GUIDE MOTORISTS BY IMPROVING DELINEATION OF TRAFFIC LANES, PARTICULARLY AT NIGHT AND WHEN ROADS ARE WET.

HOWEVER, WE MUSTN'T SOLELY CONCENTRATE ON THE ELDERLYS' ABILITY TO SEE AT NIGHT. SOME OLDER DRIVERS ALSO EXPERIENCE VISION PROBLEMS IN THE DAYLIGHT, PARTICULARLY WHEN IT COMES TO TRAFFIC SIGNALS. 3M CURRENTLY IS CONDUCTING RESEARCH ON THE ABILITY OF OLDER DRIVERS TO DISCERN CONTRAST DIFFERENCES BETWEEN LIT AND NOT LIT TRAFFIC SIGNALS IN BRIGHT DAYTIME ENVIRONMENTS.

OUR SPECIALLY DESIGNED OPTICALLY PROGRAMMED SIGNALS APPEAR TO HAVE GREATER VISUAL IMPACT IN DAYLIGHT ENVIRONMENTS, ELIMINATING THE NEED FOR HOODING AND MECHANICAL LOUVERS, WHICH HAVE PROVEN TO BE LESS THAN SATISFACTORY.

AT 3M, WE SEE BETTER UTILIZATION OF HIGHWAY CAPACITY AND NIGHTTIME SAFETY FOR OLDER DRIVERS AS TWO TRANSPORTATION ISSUES FOR WHICH WE CAN PROVIDE NEW TECHNOLOGY ALTERNATIVES IN THE NEAR TERM.

WE HAVE BECOME THE MOST "MOBILE" SOCIETY IN THE WORLD, AND HAVE COME TO VIEW OUR MOBILITY AS A "RIGHT." IF WE ARE GOING TO MAINTAIN THAT RIGHT, WE MUST ADDRESS THE INCREASINGLY CRITICAL ISSUE OF MAKING OUR CURRENT TRANSPORTATION SYSTEM MORE EFFICIENT AND SAFER.

THANK YOU.

TESTIMONY FOR SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

JULY 10, 1990

FOURTH PANEL

SUBJECT: NON-TRADITIONAL WAYS OF SERVING FUTURE HIGHWAY RELATED TRANSPORTATION NEEDS

PRESENTED BY GENE OFSTEAD

The questions that the panel and staff identified for this portion of the hearing were as follows:

1. What are some examples of innovations in the area of better management, research and development that will help meet Minnesota's future transportation needs?

2. What affect do standards have on highway costs (give examples, implications, and trade offs that may need to be made)?

3. What is the relationship between the level of governmental jurisdiction and standards?

4. What are the implications of these for federal transportation policy?

I would like to focus primarily on the questions concerning "standards" since this is such a dynamic area for us at present. We live at a time of incredible rate of change and the conventional solution to transportation issues are changing rapidly as are the opportunities and alternatives that can be used to respond to issues.

At the same time it must be recognized that a number of very conventional features which the public sees day after day such as road widths, bridge widths, bridge lengths, and which are perceived as the "standards" will more likely under go a gradual evolution. When citizen groups are unhappy with or opposed to proposed road improvements the standards are often challenged regardless of the real issues involved. We are aware that this has resulted in concern by some legislators about the possibility that standards are the real problem. This may on occasion be the fact, I would like to propose that standards are rarely excessive, are in a state of flux, and in many instances need to be greatly enhanced. These kinds of changes do have implications for federal transportation policy.

The following example areas are meant to indicate the changing expectations and changing needs which are drawing attention to certain standards.

SAFETY

Public acceptance of incredible deaths and injuries on highways appears to becoming

under a public scrutiny which will increasingly demand a more effective response in order to reduce the high toll in deaths and injuries. Highway accident deaths account for over one-half of all accidental deaths in this country in this year. Recently, they have totaled more than 45,000 deaths per year. The cost of highway accidents is estimated to be in excess of $70 billion dollars per year. This cost is not solely a highway standards issue since medical costs associated with highway-related accidents have been identified as a leading cause of the nation's high medical care costs.

The practices, standards, and policies that are currently used to address safety problems must be significantly altered if we are to make major inroads in the highway death toll. A recently published major study by traffic safety experts in the fifty states has endorsed a ten point program and a major increase in annual federal authorization funds from the current 0.5B to 1.5B to address this issue.

COMMODITY MOVEMENTS

Goods movement by trucks now account for up to thirty percent of the travel on many rural interstate highways. Due to the constant change in laws and policies regarding truck size and weight, highways are being expected to accommodate conditions far more severe than was allowed for in the original design. These conditions include higher axle weights, higher tire pressures, much higher load repetitions, and geometric maneuvers related to long trucks which were unanticipated at the time the original corners, loops, ramps, and other features were established.

The attached chart shows the progressive increases in truck length and truck weight which had been experienced in Minnesota over the past fifty years. Other states have had similar experiences. At the same time, a TRB report recently delivered to the Congress seems to indicate that the American public is generally benefited by vehicles that carry larger volumes and larger weights.

An obvious conclusion is that further increases in truck size and weight are likely. However, standards must be increased to accommodate turning movements, other maneuvering, and the increased weights and volumes of heavy commercial vehicles on the highways. Minnesota has a very aggressive bridge replacement program, however, at the current rate of bridge replacements, it would take approximately 130 years to replace and strengthen all existing bridges to satisfactorily accommodate a heavier commercial vehicle. It is unsure what size and weight vehicle should be anticipated as an ultimate configuration.

CONGESTION

Urban congestion is known to be very costly amounts in terms of time, wasted fuel, accidents, and general frustration. It is clear that major tollway improvements are needed in the nation's largest cities, including Minneapolis and St. Paul. These could appropriately be called new standards or increased standards in terms of meeting the expectation of urban road users. The United States currently lags behind Europe and Japan in the research and demonstration of technology that could address these concerns. The rate of growth and knowledge in this technical arena is very rapid. It is urgent that we deal not only with the needs of urban drivers but also the development of American technology and production for the many jobs that will be

created in furnishing and installing hardware to address the congestion issue.

OLDER DRIVERS

The demographic changes that this nation faces are not unknown to policy makers. In terms of road design standards and other travel standards, it can be safely stated that current policies and much of the current infrastructure was designed and developed to fit the needs of a lower average age driver than will be encountered in the near future. Standards must be revised and raised to adequately address these needs.

NEW TECHNOLOGY/SOCIAL CONCERNS

A final comment on standards really needs to address the opportunities created by new technology. Electronic data gathering and processing will dramatically revise many of the policies and decisions that were made in the past which were necessary to fit fully manual operations. The encouragement to help resolve the social problems of waste disposal in the form of incinerator ash, sludgeash, rubber tires, waste plastics, waste construction materials, and the like are both technical and financial issues. In addition, the new wave of environmental responses will affect both costs and standards.

One question addressed the affect of government jurisdiction on standards. It has been my observation that the predominant predictor of standards is traffic and travel needs rather than the named owner of the facility. That is, two rural roads having similar traffic characteristics but owned by two different jurisdictions are very likely to have very similar engineering design. An exception to this is the fact that the local jurisdictions (county, city, and township) are more likely to have very low traffic volumes on some roads. It has been my observation that these jurisdictions have accordingly reduced the investment cost per mile where they could do so in light of the lower traffic volume. The primary issue here is that we all be responsive to the changing needs and changing opportunities.

These are implications for federal transportation policy with regard to all of the above. Increased standards to satisfactorily address the issues of larger trucks, a major reduction in road deaths and injuries, urban congestion, implementation of new technology opportunities, all will have new costs which will occur simultaneously with the need to continue the current construction programs. It could reasonably be expected that there will be increased costs to federal, state, and local government in order to meet customer expectations in these areas.

A specific concern with regard to local governments in Minnesota is the fact that almost sixty percent of traffic accidents are occurring off of state and federal systems. There is almost no financial incentive to local units of government to attack this concern and it is expected that the results will be fragmented at best without funding encouragement.

COMMODITY MOVEMENT

Uniformity is a major national concern. The states are working closely at present to more uniformly deal with administrative and policy issues regarding trucks. Similarly, unless the federal government is involved in assisting states to effectively

deal with the affects of ever increasing commodity movements and ever changing truck weight and size laws, it cannot be expected that the states will have a uniform response in terms of timely implementation in providing of similar infrastructure to accommodate this goods movement.

One pressing concern is the ever increasing number of load restricted bridges. There is already a time lag in accomplishing upgrading of just the current deficient bridges. Increases in truck weights may add significantly to the number of inadequate bridges. Without continued and increased federal commitment, there will likely be a wide diversity of response in the various states in attending to needed bridge replacement.

RESEARCH

No area holds as much promise as the research area. We are in a period of incredibly rapid change and surrounded by technical opportunities. The current collective investment in this research by all levels of government is only about 0.1% of total investment. Much more financial commitment is needed in this area.

In response to the first issue, I believe there <u>are</u> opportunities for greater effectiveness in leading and managing this area of government service. This is possible primarily due to the excellent human resources available. We need to more effectively use the creativeness, the energies, the abilities and the willingness of the people who work in this area of government and in this area of industry. Four steps stand out as major elements of this.

Make much more effective use of strategic planning, choosing from the best future possibilities, and moving ahead with a "vision" of the best possible transportation future. This gives a sense of direction that empowers managers, supervisors, and workers. It is <u>not</u> as normal in either the private or public sector as observers may expect. A vision of what we want our culture to be would likely result in stronger objectives relating to safety, congestion, goods movement and use of high technology to address current issues.

Mobilize the various work forces through the quality management techniques that Edward Demming so effectively used in Japanese industry. Results can be seen in hard statistics such as the recent manufacturing news magazine which indicated that Japanese workers initiate approximately 1,000 work-related suggestions per year per 100 employees compared with a comparable American figure of less than ten. This would indicate that we could do far more to tap the creativeness of our workforce. It is expected that involvement of our workforce in quality management/continuous improvement, will energize and renew employees through the knowledge that they can have a direct beneficial personal impact on the customers that we serve.

Change our national attitude from competition/confrontation to collaboration. In Europe and in Japan the business community, academic community (universities), and government sector collaborate to most effectively utilize the resources of their nation in full recognition that they are in competition with the world, rather than internal competition. This is starkly different from what we experience in the United States. Examples of the need for collaboration are perhaps as clear in the commodity movement arena as anywhere. The need for beneficial collaboration between the

trucking industry, the railroad industry, and the highway management community is essential. Some recent small successes have led to increased trust in this area and could easily open the door for a far more productive way of improving the efficiency of freight movements.

Stimulate innovation and research. We have not found an effective way to encourage and reimburse the private sector for the kinds of innovation that they are capable of in the transportation sector. Current government research investment in the highly technical field of transportation amounts to 0.1% of the capitol expenditure made each year. Comparable technologies in the private sector invest anywhere from twenty to fifty times that percentage in search of more effective ways of meeting customer needs and desires. We will not make effective progress in new technologies without a dramatic change in our commitment to research and the stimulation of innovation.

Statement of

The Associated General Contractors of Minnesota

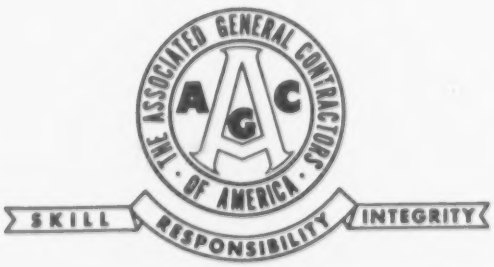
Presented to the U.S. Senate Environment and Public Works Committee

July 10, 1990

St. Paul, Minnesota

On the Topic of

1991 Surface Transportation Legislation



Summary of
AGC Recommendations
To The
U.S. Senate Environment and Public Works Committee

- AGC urges the Federal Government to assume the necessary leadership role to promote adequate transportation capital investment by all levels of government.

- AGC recommends the Congress continue the concept of a user fee financed trust fund to support the nation's federal-aid Highway program.

- AGC recommends that the Congress continue to reject proposals to increase the gasoline tax for deficit reduction or non-transportation spending. AGC supports Congressional efforts to increase funding for the nation's highway program through spending down the trust fund balance, increasing highway user fees, and elimination of the tax exemption for gasohol.

- AGC strongly urges continuation of the time-tested, open competitive bidding system -- with contracts publicly advertised, bids publicly received and read aloud, and contracts awarded to the lowest responsive and responsible bidder -- as the means of contracting for federally-assisted highway construction.

- AGC recommends a continuation, in future legislation, of the concepts of a guaranteed level of federal funding to small and rural states, as well as a guaranteed minimum return of trust fund revenues to donor states which contribute significantly more in user fees than they receive in apportionments.

- AGC continues to endorse the House Public Works and Transportation Committee's initiatives to take the transportation trust funds out of the unified budget process.

- AGC urges the Congress to sunset the current DBE program which results in the denial of subcontracts to many individuals because of their race, gender, or national origin. Instead, the Congress should explore means of promoting the participation of disadvantaged business enterprises in the federal-aid highway program that will not be subject to constitutional challenge.

- AGC recommends that the Congress remove the current sanctions and penalties affecting the highway program and explore alternate means to achieve appropriate state compliance.

- AGC recommends the Congress consider a reduced federal role in highway program administration, particularly with respect to project by project decision making, and endorse increased flexibility in program administration by the states.

Mr. Chairman and members of the Committee, my name is Donald K. Dean, Executive Director of the Associated General Contractors of America, Minnesota Chapter. AGC of America represents more than 32,500 firms, including over 8,000 of America's leading general contracting firms. Minnesota AGC represents over 400 of these firms in our state. These contractors perform more than 80 percent of the contract construction of highways, bridges, commercial buildings, industrial and municipal-utility facilities, and are responsible for employment of more than 3,500,000 individuals in the nation, including approximately 75,000 in Minnesota.

AGC appreciates the opportunity to express its views on the major issues facing the nation in transportation. As the nation's leading construction trade association, AGC is vitally concerned with adequate investment in our nation's transportation infrastructure to provide the foundation for continued economic prosperity and international competitiveness. Of particular concern to AGC are the principal capital investment programs within DOT, specifically, the federal-aid highway, airport development and urban mass transit capital programs.

In preparation for the reauthorization of the federal surface transportation programs in 1991, AGC undertook its own policy development initiative in 1988. Recognizing that the Interstate Highway System will be essentially complete in the early 1990's, America is at a cross roads with regard to its future transportation policy. AGC's policy development effort focused on those surface transportation issues which will continue to be important to the construction industry into the 21st century. In March of this year AGC adopted a series of policy recommendations relating to future surface transportation legislation. Following is a discussion of some of the major policy recommendations which AGC adopted.

TRANSPORTATION'S ROLE IN ECONOMIC DEVELOPMENT

AGC believes that transportation infrastructure is at the very heart of what makes this country thrive and prosper. Over the past 30 years the gross national product of this country has grown over 1,000 percent, nearly double the increase of the previous 30-year period in our history. Several factors account for this growth. One factor, highway development, stands out above all others. America has grown and prospered from the mobility provided by the nation's highway transportation system, in general, and specifically the Interstate Highway System, which was started in 1956. A look at the role of our highway system in our economy will show the magnitude of its effect on current and future economic development.

- 89.5 percent of all personal travel is on highways;
- 82 percent of all freight revenues are carried on highways; nearly every product manufactured or consumed in this country is, for a portion of its journey from production to market carried by truck; and
- 85 percent of America's workers commute to work by private vehicle.

Clearly, highways play a vital role in our economy. No commercial, industrial, retail, or residential development would have been built in a location that did not provide for an adequate highway system to support it.

As development patterns have changed, highways have played an even more important role in this country. Development over the past 20 years has shifted substantially to suburban growth centers. Suburban employment currently accounts for 60 percent of metropolitan jobs, 47 percent of all job destinations, and 67 percent of all job growth in this country. America is increasingly working in commercial buildings, industrial complexes, and shopping centers in suburban areas. None of these suburban developments would have been possible without an adequate highway transportation system serving them.

Increasingly, communities around this country are recognizing the critical link between highways and economic development. Recently, Phoenix voted a multi-billion dollar road development program designed to support the area's rapid economic development. A critical factor in the tremendous building boom in the suburban Washington, D.C., area of Fairfax County, Virginia, has been access to highway transportation. This same link between highways and building is being played out in growth areas across the country.

Unfortunately, some tend to take our highway system for granted. Indeed, like other aspects of our nation's infrastructure, some rarely acknowledge the vital role that highways play in their daily lives, until the highway system breaks down.

There are already signs our highway system is wearing out. The tremendous highway investment made over the past 35 years has been a great success. Our highway network has carried traffic far beyond its design life, as Americans have enjoyed the rewards of mobility unknown to most of the rest of the world. This success, however, has taken its toll as we fail to adequately reinvest in our highway system. Many portions of the Interstate system are in need of repair and reconstruction; nearly 50 percent of the nation's bridges are structurally deficient or obsolete; and congestion on urban freeways is increasing at an alarming rate.

A central question facing the Congress as it begins to develop its future surface transportation legislation is how to ensure adequate investment in the nation's transportation infrastructure to meet current and future demands for economic growth. AGC believes that this nation is seriously underinvesting in its transportation infrastructure, at a great cost to the nation in lost productivity, jobs, and international competitiveness. The nation's transportation system is the arterial system by which the country's economic development is nurtured and supported. If the people of this country, both public officials and private citizens alike, continue to ignore the construction and rehabilitation of this nation's highways, the congestion in the nation's airports and airways, our nation will pay many times over in lost economic opportunity now and in the future.

AGC is joined by a number of others in a concern for the state of the nation's infrastructure. There is clear and convincing evidence that our abysmally deficient investment in infrastructure is having a negative effect on the future of the nation's economy. The National Council on Public Works Improvement (NCPWI) identified the current lack of infrastructure investment as an issue approaching crisis proportions. In its final report entitled "Fragile Foundations" the NCPWI concluded that the quality of America's infrastructure is barely adequate to fulfill current requirements and insufficient to meet the demands of the future. A major recommendation contained in the NCPWI final report is a call for a national commitment, shared by all levels of government and the private sector, to increase capital spending for infrastructure by as much as 100 percent above current levels.

The Rebuild America Coalition, an organization of 49 public and private associations dedicated to infrastructure investment, published a study in March of 1988 entitled "Increasing Infrastructure Investment: Making America's Economy Competitive Again". That study examined the historic role of infrastructure investment in promoting economic growth and the adverse economic effects of the disinvestment in infrastructure which has taken place over the past 20 years.

Recently, a strong link between public works investment and America's productivity and international competitiveness has been drawn by Dr. David Aschauer, Senior Economist for the Chicago Federal Reserve Bank. In his research, Dr. Aschauer studied the productivity and public investment levels of seven major industrialized nations -- the United States, Japan, West Germany, Canada, France, Italy, and the United Kingdom.

The results of Aschauer's research indicate that nations with the highest savings and investment also have the highest productivity. He concludes that "Public investment, by directly raising productivity as well as by promoting private investment, works doubly hard in enhancing our worldwide competitive position." Recently 327 economists, including six Nobel Laureates, called upon the Congress and the President to increase public investment noting the crucial link between that investment and the productivity needed for a competitive edge.

In as much as transportation is a major component of the nation's infrastructure, AGC believes that the NCPWI findings and the research work of the Rebuild America Coalition and Dr. Aschauer lend strong support to our advocacy of increased transportation capital investment to keep America's economy strong.

AGC Recommendation

AGC urges the federal government to assume the necessary leadership role to promote adequate transportation capital investment by all levels of government.

THE CURRENT PROGRAM -- MODEL CONCEPTS FOR THE FUTURE

The challenges facing this country in transportation are immense, but not insurmountable. The federal programs supporting the nation's surface transportation are basically sound, providing a solid framework to address the challenges of the future. As the Subcommittee considers the future surface transportation legislation, AGC believes there are a number of important concepts of the current program which are critical to the success of surface transportation programs in the future. They include:

- User Fee - Trust Fund Concepts - The critical element which has led to the success of the federal-aid highway program is the user-fee financed trust fund mechanism which is used to support them. The trust fund concept has long been recognized as a reliable and stable financing mechanism for infrastructure investment. As early as the 1930s, several states had developed dedicated, user-fee mechanisms to support highway improvement programs in their states.

  By 1956, the year the Interstate Highway Program was initiated, some 25 states had instituted trust funds or similar dedicated funding sources for their highway programs. Using these successes as a model, the Interstate Highway Program was developed around the user-fee trust fund concept. That financing mechanism has served this country well for nearly 35 years, supporting the nation's highway program and the development of the world's greatest public works project -- the Interstate Highway System.

Several key features of the trust fund are largely responsible for its success. First it is user-fee financed – the nation's highway transportation system is paid for only by the user. The more you use the system the more you pay. The public support for the highway program has remained strong primarily because the traveling public receives a direct benefit from the money it pays in user fees.

Another key aspect of the trust fund is that it provides a stable and reliable financing mechanism on which a successful, major capital investment program must depend. A typical highway project may take 7 to 10 years from the planning stage to completion. Proper planning for the transportation needs of the future requires that a dependable source of revenue will be available to finance the needed improvements when they are ready for construction. The multi-year authorization process and contract authority are critical ingredients to permit for this long term planning and assure the highway program's success.

From the budgetary standpoint, perhaps the most critical feature of the trust fund is the Byrd Amendment which assures its solvency. The amendment provides that on an annual basis, there is a determination of the outstanding obligations and current balance and expected receipts of the trust fund. This information is used to guarantee that future commitments against the trust fund can be honored.

AGC Recommendation

AGC recommends the Congress continue the concept of a user fee financed trust fund to support the nation's federal-aid highway program.

- Maintain the Gas Tax for Transportation Purposes - AGC strongly opposes any diversion of fuel taxes to purposes other than transportation. As discussed previously, the transportation needs of this country are so great, that we cannot afford to divert this revenue source to other government spending. AGC supports an increase in the gas tax if it is dedicated solely to improving the nations highways and bridges.

In a related issue, AGC believes the Congress should eliminate the fuel tax exemption for gasohol. Purchasers of gasohol, like other highway users, should pay their fair share of the costs of construction and rehabilitation of the nation's highway system. However, since gasohol users pay only one-third of the normal 9 cent per gallon gas tax, they are being subsidized by other highway users. In this fiscal year, the gasohol subsidy costs the Highway Trust Fund nearly $500 million. If pending clean air legislation is enacted with gasohol mandates, the loss to the trust fund could be significantly greater.

AGC believes that energy independence and clean air are worthy goals, but not at the expense of the nation's highway program. If the gasohol industry truly needs a tax incentive to compete in the marketplace, then other subsidies should be considered by the Congress. The entire nation will benefit from cleaner air and energy independence, therefore, AGC believes the general taxpayer, not the nation's highway program, should bear the responsibility to subsidize the gasohol industry.

AGC Recommendation

AGC recommends that the Congress continue to reject proposals to increase the gasoline tax for deficit reduction or non-transportation spending. AGC supports Congressional efforts to increase funding for the nation's highway program through spending down the trust fund balance, increasing highway user fees, and elimination of the tax exemption for gasohol.

- **The Open Competitive Bidding System** - The open competitive bidding system has long been the cornerstone of the effective administration of public funds in construction contracts. The nation's highway system, as exemplified by the Interstate system, is an outstanding example of the success of this bidding system. Across this nation, the traveling public utilizes a highway system that was built to quality standards and the public has been assured, through open competition with award to lowest responsive and responsible bidder, that they were obtaining this quality product at the lowest cost to the taxpayer.

Recently, the Federal Highway Administration has indicated a desire to explore alternatives to the standard competitive bidding process as part of an experimental program. This action appears to be motivated by a desire of to minimize problems in contract administration, including inferior performance and excessive contract claims. Whatever the motivation, however, these methods of procurement interject an element of subjectivity into the bid process and circumvent the basic, cost-effective concept of lowest competitive bid.

AGC believes that the open competitive bidding system remains the single most effective means of contracting for highway construction. In instances where concerns about contractor performance arise, there currently exists a number of steps which can be used by State transportation officials to assure a quality project. These steps include: Prequalification; Improved Plans and Specifications; Prebid Conferences; Adequate Inspection; and Preconstruction Conferences. AGC believes these steps, in conjunction with open competitive bidding, assures the taxpaying public of the highest quality project at the lowest possible price and the construction contractor of fairness and integrity in the selection process.

AGC Recommendation

AGC strongly urges continuation of the time-tested, open competitive bidding system -- with contracts publicly advertised, bids publicly received and read aloud, and contracts awarded to the lowest responsive and responsible bidder -- as the means of contracting for federally-assisted highway construction.

- **Equitable Distribution of Funding** - AGC recognizes that one of the most difficult challenges of developing future highway legislation will be devising equitable formulas for the distribution of funding. While the current formulas may not be viewed by all states as equitable, AGC believes that two concepts contained in the current program assure all states a certain level of equity. They are the one-half percent minimum apportionment and the 85 percent minimum allocation provisions.

AGC acknowledges that these provisions may have to take a different form in the future program since certain categories of funding are likely to be revised. However, AGG endorses the overall concept of guaranteeing small and rural states a minimum level of total federal funding to support their highway programs. AGC equally endorses the concept of guaranteeing a minimum level of return of trust fund contributions to states which through the formula process receive significantly less in apportionments than they contribute in user fees.

AGC Recommendation

AGC recommends a continuation, in future legislation, of the concepts of a guaranteed level of federal funding to small and rural states, as well as a guaranteed minimum return of trust fund revenues to donor states which contribute significantly more in user fees than they receive in apportionments.

CURRENT PROBLEMS – A LOSS OF PROGRAM EFFECTIVENESS

While the current program has generally worked well, there are a number of policies which are having an adverse effect on the overall program effectiveness. The most damaging policies are occurring as part of the budget process which prevents the timely expenditure of highway user revenues for their intended purpose. No less troublesome, however, are several other aspects of the program which compromise the cost effectiveness of the program. The problem areas include:

- Budgetary Treatment of the Transportation Trust Funds - While the trust fund mechanism has worked well in funding transportation programs, the current budget process inhibits the expenditure of the trust fund receipts for their intended purpose. AGC views the trust fund and the highway program in the context of an ongoing capital investment program which should be subject to different rules than the current budget allows. AGC believes the manner in which the transportation trust funds are treated in the budget process needs to be modified.

  As mentioned previously, the highway program is founded on the basis of multi-year authorizations for highway investment. The process recognizes that when a highway project is approved and let for contract, it may be 3 or more years before the final reimbursement for the project will be made to a state and the construction contractor paid in full for the work. For this reason, the user fees paid into the Highway Trust Fund are kept in force for 2 years beyond the final authorization in any highway legislation. This provides the necessary financing for the project at the time the bills need to be paid. Without other artificial spending restraints, such as obligation ceilings, the trust fund can support the highway program with a relatively low cash balance of approximately $2 to $3 billion.

  The budget problems which have faced this country since the late 1960s, however, have had a detrimental effect on the ability of the federal government to let the trust fund work in the manner in which it was intended. Since 1969, artificial spending restraints have caused the Highway Trust Fund balance to grow dramatically to a current balance of over $15 billion, including the mass transit account.

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A first step in addressing this issue would be to expend the trust fund balances for their intended purposes. Since the trust fund receipts can be used for no other purpose than transportation, bankrolling these trust funds is not only a breach of faith with the transportation users of this country, but is merely postponing work that should be done now to prevent more costly repairs later.

A longer term solution to this issue is to take the trust funds out of the unified budget. These programs have not contributed to the deficit. The large cash balances are the very proof of that. The user-fee financed transportation programs of this country should be funded at the level their trust funds can support. The receipts should not be loaned to other programs while vital transportation needs of this country are neglected.

AGC Recommendation

AGC continues to endorse the House Public Works and Transportation Committee's initiatives to take the transportation trust funds out of the unified budget process.

- Special Preference Programs - In conjunction with AGC concerns about preservation of the open competitive bidding system, AGC has an ongoing concern with the continuation of special preference programs within DOT's federally assisted construction programs. Beginning with the Department of Transportation's 1980 Minority Business Enterprise regulations and continuing with the statutory requirements for Disadvantaged Business Enterprise (DBE) participation in the highway, transit, and airport improvement programs which were enacted in 1982 and 1987, AGC is very concerned that the Department's DBE programs are compromising the competitive bidding system.

  Although the notion exists that the apparent lack of minority-owned construction firms proves there has been discrimination in the award of public construction contracts, AGC believes that the open competitive bidding system, by its nature, is race and gender blind. If construction contracts are publicly advertised, bids accepted from all qualified bidders and read aloud publicly, there is no chance that a public agency can discriminate in the award of their contracts.

  AGC Recommendation

  AGC urges the Congress to sunset the current DBE program which results in the denial of subcontracts to many individuals because of their race, gender, or national origin. Instead, the Congress should explore means of promoting the participation of disadvantaged business enterprises in the federal-aid highway program that will not be subject to constitutional challenge.

- Highway program funding sanctions - Over the past several decades, the highway program has been used as leverage to force compliance with other federal mandates. From highway beautification to clean air, there are currently at least 11 different highway program sanctions ranging from withholding project approval to withholding of highway apportionments which may be imposed. Given the pressing need to adequately fund our nation's highway program, it is counterproductive, at best, to impose highway sanctions on states and jeopardize their ability to meet growing highway needs.

AGC Recommendation

AGC recommends that the Congress remove the current sanctions and penalties affecting the highway program and explore alternate means to achieve appropriate state compliance.

- **Federal/State Roles** - As other major changes in the program are considered, it is an opportune time to reassess the current federal/state/local roles in the nation's highway program. AGC believes that the federal/state partnership that has existed in the highway program has generally worked well. AGC believes, however, that a refinement of the federal and state roles should be examined, as follows: There is a legitimate role for the federal government to establish national priorities and conduct oversight of federal expenditures. However, AGC believes there has been too much federal intrusion into state decisionmaking and the administration of the highway program.

AGC Recommendation

AGC recommends the Congress consider a reduced federal role in highway program administration, particularly with respect to project by project decisionmaking, and endorse increased flexibility in program administration by the states.

In closing, AGC acknowledges that the Congress faces a tremendous challenge in balancing interests in the future legislation and stands ready to work with the Congress as it develops solutions to the nation's transportation infrastructure crisis. The immediate challenge is to make transportation a top priority on the national agenda. Only then, can a common political will be mustered to begin to address our critical transportation needs and ensure the future economic growth and competitiveness of this nation.

Donald K. Dean, Executive Director
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Minnesota Metropolitan Planning Organizations

5 1990

July 2, 1990

Senator Dave Durenberger
12 South 6th Street
1020 Plymouth Building
Minneapolis, Minnesota 55402

Re: Field Hearing on the future federal Highway Program

Dear Senator Durenberger:

Pursuant to your request for input on the emerging future federal policy on transportation issues, the Executive Directors of Minnesota Metropolitan Planning Organizations would like to present their views.

Minnesota Metropolitan Planning Organizations have the responsibility of developing and maintaining transportation plans for out-state urban areas of 50,000 to 130,000 population. We are the only forum for cooperative decision between local political jurisdictions within these larger urban areas. To a large extent we are able to provide these needed functions due to federal funding. Accordingly, we are concerned with proposals which would eliminate or make optional, the federal planning requirements for areas less than 200,000 population. This could eliminate or significantly reduce our ability to perform transportation planning functions. From our perspective, there is a need for more not less federal funding assistance to address transportation issues in urban areas of our size.

We strongly believe there should be a substantial increase in federal funding programs to meet current needs and to address the rapidly deteriorating transportation infrastructure in urban areas. Obligation ceilings from the Highway Trust Fund should be raised to spend down the balance and thus meet these needs. Just like planning funds, we need more federal funding not less to address transportation needs in urban areas.

We most vehemently oppose the use of the Highway Trust Fund for deficit reduction purposes. Additional federal gas taxes could result in reduced consumption, thus reducing revenues for the Federal Highway Trust Fund as well as for State gas tax funds. This would transfer more transportation funding problems to the States which already have large revenue voids to fill. Any increase to the federal gas tax should go where users intend it to go, transportation!

The proposed increase in funding splits for federal construction programs will result in a significant financial burden on local jurisdictions. In recent years, local spending on transportation has increased dramatically compared to federal spending. Accordingly, there is no room for a greater burden. We recommend a continuation of the current funding splits for federal programs.

We encourage you to eliminate or significantly reduce the federal gas tax exemption for gasohol. This exemption results in the loss of millions of dollars from the Highway Trust Fund. Needed transportation improvements can not tolerate this drain on the Highway Trust Fund.

Please give our view point serious consideration as you formulate the future Federal Highway Program.

Sincerely,

William G. Hansen

William G. Hansen
President, MN MPO
665 Franklin Avenue N.E.
St. Cloud, Minnesota 56304

WGH/jh

U.S. SENATE

WATER RESOURCES, TRANSPORTATION AND

INFRASTRUCTURE SUBCOMMITTEE

COMMITTEE ON ENVIRONMENT AND

TRANSPORTATION

JULY 9, 1990

WRITTEN STATEMENT

OF

ANDY PIILOLA

CHIEF EXECUTIVE OFFICER

MINNESOTA TRUCKING ASSOCIATION

Thank you for the opportunity to submit testimony concerning the future of the Federal-aid highway program and related surface transportation issues. I am pleased to share with you the views of the Minnesota Trucking Association, a trade association representing over 450 trucking and related businesses that do business in Minnesota.

Trucking is essential to the economic well-being of states like Minnesota. A glance at some fundamental facts about the motor carrier industry in Minnesota will confirm trucking's critical role in ensuring the continuation of the state's economic vitality. Based on 1988 data, the industry:

- Employs 143,870 persons.
- Had a payroll in 1988 totaling over $3 billion.
- Serves all of Minnesota populated communities of which 42% depend entirely on trucks.
- Paid $384.1 million in 1988 State and Federal Highway Taxes, accounting for 42.6% of the total state and Federal Highway Tax receipts paid by all motor vehicles, approximately $7.4 million each week.
- Trucks paid $260.7 million in State Highway-User Taxes, 37.9% of the total paid by all motor vehicles.
- State and Federal Highway User Taxes paid on one large truck combination are 31 times greater than those paid by one medium passenger car.

Nationally, too, trucks have become the carrier of choice of America's shippers. Over 77% of the value of everything America grows and produces now moves on trucks. Freight revenue now exceeds $240 billion annually, and the trucking industry generates fully 5% of this nation's gross national product. The trucking industry employs 7.5 million Americans, and pays them $160 billion in wages annually. Trucks pay over $50 million a day in highway use taxes which represents more than 45% of all state and federal taxes paid.

As the dominant mover of freight in America, the trucking industry has a vital interest in the next generation federal highway program. The newly envisioned "Highway System of National Significance" provides for a road network which carries 45% of all traffic and 70% of all commercial traffic. The system would comprise the roughly 155,000 miles of highways which connect major population centers, including the entire U.S. Interstate system and 112,500 miles of other vital highways, including many in Minnesota.

Once designated, this new national system should be built to the highest standards possible. Better pavement designs, with thicker pavements, better drainage, better signs and improved geometric designs, would enhance safety and efficiency and would dramatically increase the life of the highways. The money is in the Trust Fund now to start this program with funding at an annual funding level of $17.5 billion. No new taxes are needed and none should be considered until the current fund balances in the Highway Trust are adequately committed.

To ensure adequate and stable funding for a federal highway program which keeps pace with traffic growth into the next century, the Federal Highway Trust Fund must be made permanent. As major contributors to that fund, the members of MTA have in the past supported responsible levels of taxation collected in the form of per gallon fuel taxes, truck sales taxes, tire taxes, and the heavy vehicle use tax. We do and will continue to oppose all forms of taxes which are not reasonably uniform among the classes of users, are not readily verifiable measures of highway and vehicle use, are open to evasion and abuse, are complicated and costly to administer, and which serve to create impediments to interstate commerce. By these standards the MTA stands opposed to weight-distance, ton-mile, axle-mile, and other similar third structure taxes.

MTA supports the basic concept of a toll-free National Highway System. Financing of highway improvements should rely on highway user taxes and receipts, exclusive of tolls. MTA opposes any use of federal aid highway funds in conjunction with tolls either for new highways or for highway reconstruction.

Expansion of the use of Highway Trust Fund dollars for purposes other than highways or transportation is not a viable option and should not be considered. Shifting a greater burden of highway construction cost to state and local governments denies the national nature of the highway program. Continued federal funding for major secondary and urban road projects and for bridges is also needed and can be supported by the level of funding previously noted.

Diversion of Highway Trust Fund revenues to non-highway purposes seriously hampers this nation's ability to preserve its highway infrastructure. Since enactment of the Highway Trust Fund, a number of non-highway expenditures have been shifted to the Highway Trust Fund. This diversion includes: rail relocation expenses, bikeways, parking lots, ferryboat construction and various transit expenditures. At a time when the highway infrastructure has deteriorated significantly, continued diversion of Highway Trust Fund revenue to non-highway purposes is unjustified. In addition efforts to increase fuel taxes for General Funds or other public purposes would have serious adverse impact on the states ability to increase fuel taxes for highway purposes. Reducing highway expenditures for deficit reduction or any other non-highway purpose is opposed.

A serious drain on the Highway Trust Fund is the current exemption of gasohol from the federal motor fuel taxes. All alternative fuels must be taxed at levels equivalent to the gasoline or diesel fuel tax which they replace. If there is to be a federal subsidy for alternative fuels, it should be paid by all taxpayers and evaluated on the same terms as other spending or tax preferences.

Excise tax evasion is another drain on the Fund. While the Internal Revenue Service has voiced concerns, they have done little to stop it. MTA supports the emphasis contained in the National Transportation Strategy to curtail excise tax evasion. Proper audit and enforcement could add $1 billion to the Highway Trust Fund.

In order to provide Minnesota with the tools it needs to remain economically competitive, the Minnesota Trucking Association urges the Committee to allow the use of more productive equipment. Recent studies indicate that both longer combination vehicles, particularly triples, and vehicles heavier than the current 80,000 pound federal weight limit, would enhance productivity without compromising safety. Special permit systems would allow states to select appropriate routes, set maximum weights and lengths, and set fee structures. A limited federal role would appear to our Association as the best framework to implement such a system.

MTA supports better highway management to relieve congestion, improve traffic flow and increase truck productivity. Trucks must have freedom to move at all times on the nation's highways, roads and bridges in order to provide essential transportation between American communities, businesses, and industry.

MTA supports the Administration's efforts to achieve greater uniformity in state tax regulation as recommended by the National Governors Association. The Minnesota Trucking Association is strongly opposed, however, to federal legislative proposals which would pre-empt state law and lead to further deregulation of the intrastate trucking industry. As part of this position MTA supports the preservation of collective ratemaking.

Over the past several years, MTA has supported all highway safety initiatives launched at the federal level. The Motor Carrier Safety Assistance Program has proved to be extremely successful and MTA believes MCSAP funding should be increased and combined with more uniform safety inspection procedures and regulations. The problem with overweight containers must also be addressed and shippers must assume liability for overloads.

MTA supports the establishment of a Motor Carrier Office within the U.S. DOT. Beginning in fiscal year 1992, $50 million should be earmarked each year for trucking-related research and development expenditures. These funds should be employed for research, development, and demonstration programs aimed specifically at enhancing trucking safety, productivity and international competitiveness. This research should include efforts to improve off-ramp construction and signing, downgrade signing and truck rest area solutions.

Finally, we urge this Committee to make its decision based on sound economics, engineering, demographics and business and international trade issues. We must not lose sight of these issues and make decisions based on politics. The course we set in this new highway reauthorization legislation will set the stage for our children and our society for years to come.

TESTIMONY PREPARED FOR SENATE ENVIRONMENT AND PUBLIC WORKS HEARING - JULY 10, 1990, ST PAUL, MINNESOTA. PRESENTED BY DR. JOHN PALMER, CHAIRMAN, DEPARTMENT OF HEALTH EDUCATION AND TRAFFIC SAFETY, ST CLOUD STATE UNIVERSITY, ST CLOUD, MN

Driver Education began in the early thirties. It grew rapidly because traffic accidents and highway fatalities have been a great concern right from the beginning of motor vehicle transportation. Knowledgeable people quickly recognized the need for education and training in the safe use of motor vehicles. It was a common sense determination.

Congress, recognizing the need for action to further reduce traffic fatalities, passed the Highway Transportation Safety Act of 1966. That well conceived legislation included eighteen guidelines, or countermeasures, for reducing traffic accidents, injuries and deaths. Driver Education was one of those original standards. The effective use and coordination of these priorities became known as the "total systems approach" to traffic safety.

(The eighteen countermeasures: Motor vehicle inspection, motor vehicle registration, motorcycle safety, driver education, driver licensing, codes and laws, traffic courts, alcohol in relation to

highway safety, identification and surveillance of accident locations, traffic records, emergency medical services, highway design, construction and maintenance, traffic engineering services, pedestrian safety, police traffic services, debris hazard control and cleanup, pupil transportation safety and accident investigation and reporting.)

During the year when Driver Education first began (1934) the number of deaths per 100 million vehicle miles driven was 15.61. When the transporation act was passed thirty two years later that number had been reduced to 5.70, a 64% reduction. During the period between 1966 and 1981 the figure was reduced 42% to 3.29.

In 1981, under pressure from a new administration to return every possible federal program to state control, the National Highway Traffic Safety Administration, drastically modified the total systems package, adopting six (Alcohol countermeasures, police traffic services, occupant protection, traffic records, emergency medical services and highway safety construction and operational improvements) and dropping the other twelve. Driver Education was not considered a "national priority" thus not entitled to benefit either financially or promotionally.

Despite the findings of their own extensive study (Evaluation of Safe Performance Secondary School Driver Education Curriculum Demonstration Project, known as the DeKalb Study 6/83), which clearly established that students who take driver education have

fewer accidents and less violations than drivers who do not take driver education, and despite testimony strongly supportive of driver education, NHTSA's former position regarding Driver Education was reconfirmed in 1987 after a series of carefully structured public hearings at three different locations. Following those hearings the six priorities were expanded to seven. . .motorcycle safety being added. Without belittling the importance of motorcycle safety, how can it be considered a national priority if Driver Education is not?

(It is the opinion of many that an influencing factor in NHTSA's decision to drop Driver Education and to subsequently refuse to change its position, was the highly publicized results of a 1976-77 study commissioned by the Insurance Institute for Highway Safety (IIHS). That report said "High school driver education is killing 2,000 16-17 year olds every year." The report also indicated that "80% of students in that age bracket would delay getting their driver's license until they were eighteen if Driver Education were not available in high school."

Several independent researchers and representatives of insurance companies represented by IIHS declared that the nature of the instructions given to the authors of the report as well as the techniques utilized in conducting the study were seriously flawed. IIHS did subsequently modify its statement to the point that it was "not recommending the discontinuance of driver education in public schools." However, the damage was done.

Driver Education continues to be haunted by that report.)

NHTSA's decision to drop high school driver education as a national priority had little, if any, immediate adverse effect. That was not a surprise to those strong advocates of Driver Education who opposed NHTSA's action. During the interim, however, the results those supporters did anticipate are appearing. The domino, trickle down, effect is beginning to show.

While it is still too early to see any dramatic effect on national statistics, a trend appears to be developing. The rate of improvement in the most carefully watched area. . .deaths per 100 million vehicle miles driven. . . has slowed from 42% to 26%. And the number of fatalities in non-alcohol related accidents is trending upward dramatically.

A number of states (Colorado, Oregon, New Jersey, Oklahoma, Georgia, Florida, California, West Virginia, Delaware, Washington, D. C., etc.) no longer have state supported high school driver education. Several other states are on the verge of dropping it, with some still siting the IIHS report as justification. Among the reasons given for such adverse decisions is "NHTSA doesn't think it is important so why should we?" In effect those states have told the schools and communities "if you want to retain driver education you'll have to find a way to do it without aid and assistance from us." Because of requiting deterioration of

traffic safety at least three of those states (Oregon, Colorado & New Jersey) have introduced legislation to restore such programs.

The best Driver Education teachers, as in any other specialty, are those who are in it because they want to be, and as a result, are dedicated to doing a quality job. We are losing more and more of those individuals through attrition. Replacements are becoming increasingly difficult to find. Young educators are not going to get involved in a field of specialty which is not recognized, appreciated or funded on a regular basis. An increasing number of schools are assigning the Driver Education responsibility to teachers with primary interests in other specialties. Quality lessons as a result.

Because of the lack of interest in a driver education major by college students, an increasing number of colleges and universities are dropping the Driver Education curriculum from their program. Thus, it is becoming harder to certify teachers of other courses as Driver Education specialists.

There is a strong feeling among close observers that Driver Education is on the brink, or at the cross-roads at best, just at a time when the need for quality programs is growing. It is difficult to recall any other situation where a critical segment of the economy is abandoned because it may not be doing its job as effectively as it should be. While millions and millions of dollars are being spent on alcohol, drugs and safety belts as

solutions to the accident/fatality challenge, the basics are being ignored. Little, if anything, is being done to strengthen and improve Driver Education.

At several national conferences during the last year I have heard participants specifically recommend drastic steps to improve and strengthen Driver Education. At one of those gatherings. . .NHTSA's own Youth Traffic Safety Initiatives Forum. . .the attending delegates, all governor appointed, specifically recommended: "mandated Driver Education programs in all fifty states by 1995." Early reports of that conference definitely included that recommendation. The final draft, however, was reworded to direct focus on only matters directly connected with the seven areas of responsibility NHTSA has now carved for itself.

In bulletins and statistical summaries NHTSA has distributed, the agency, to spotlight its success in addressing the drunk driving issue, emphasizes "there was an increased number of motor vehicle fatalities in the 15 to 20 age group during 1988 but fewer of the fatalities involved alcohol." The attached charts, distributed by NHTSA, emphasize that something other than alcohol causes motor vehicle fatalities and NHTSA alludes to that obvious fact, but they don't give any indication that lack of quality Driver Education is a part of it.

It is also important to note that the statistical

comparison in these charts begins with the year of NHTSA's decision regarding Driver Education. There is a clear indication that non-alcohol related fatalities have increased dramatically since NHTSA first said "Driver Education is not a national priority."

In Congressional hearings now being held and in Secretary of Transportation Skinner's proposed Transportation Program for the future, Driver Education is occasionally favorably included in future plans. That belief is supported by positive proposals from the National Safety Council and the Highway Users Federation for Safety and Mobility.

Congress did address the importance of fully qualified and trained drivers when it passed legislation impacting commercial drivers licenses and other aspects of commercial vehicle operations. Commercial trucking executives are already lamenting the severe lack of individuals with basic driving skills. That shortage is surely going to multiply.

On several occasions I have heard upper level military people include in their concerns the need to establish costly driver education and improvement programs for the young people entering the service. That's not because they want to or because they used to. It is because the youngsters coming into the military don't have the basics.

Dr. Palmers Testimony 7

The words of a New York paramedic in a recent letter to the New York Times states reality very well:

> Although I'm sure most people would agree that the efforts of the National Highway Traffic Safety Administration and American car makers to improve occupant safety in side impat collisions is necessary and will save lives, the fundamentals of traffic safety are repeatedly overlooked.
>
> In my nine nears as a New York City paramedic, I have often witnessed the carnage on our streets and highways. I believe the most prominent contributing factor to traffic accidents is poor driving skills. The adage that 'most accidents are avoidable' is true. In New York, the emergency Medical Service has for ten years required its employees to complete a week-long driver training course, with a resulting reduction in number of serious accidents per mile driven, despite rapid expansion of the fleet and number of employees.
>
> The most effective action Federal highway officials could take would be to make states require greatly improved driver traning as a condition for receiving Federal highway money. Remember that the number of people killed each year on our streets and highways is nearly equal to the total number of troops killed in the Vietnamm War." (Stephen V. K. Friedman, New York, Jan., 22, 1990)

Mr. Friedman also suggests a good starting place for addressing the problem.

It is somewhat understandable that a particular Member of Congress from any given state would question the advisability or justification for becoming involved in a matter like Driver Education. Despite the studied judgment of the powers that be at the Department of Transportation and in the National Highway Traffic Safety Administration, Driver Education should be a national priority. Driver Education. . .or the lack of it. . .is a factor in traffic accidents, from the ground up.

When a driver gets a license in a state with no driver education requirement, that individual is being licensed to drive anywhere else in the world. Citizens in states with solid Driver Education programs should not have to be concerned that neighboring states don't have similar requirements or provide like training. The legislative representatives of those citizens should have similar concerns. That's any Member of Congress would have justification for seriously considering a legislative pursuit to get Driver Education back on track. It's not going to happen without Congressional intervention.

STATEMENT OF ROBERT H. HERTZBERG

EXECUTIVE VICE PRESIDENT

UPPER MISSISSIPPI WATERWAY ASSOCIATION

Submitted to:

THE SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

FIELD HEARING IN MINNESOTA

July 10, 1990

My name is Robert H. Hertzberg. I am the Executive Vice President of the Upper Mississippi Water Association. The Upper Mississippi Waterway Association was organized in 1932. It is a marine trade association that represents approximately 90 corporate members in Minnesota, Wisconsin, Iowa, Illinois and Missouri. Members include grain companies, electric utility companies, farm co-ops, barge lines, terminal operators and many others who have an interest in commercial navigation. The U.S. Army Corps of Engineers, the U.S. Coast Guard and the Minnesota Department of Transporation attend meetings, ex-officio.

The Upper Mississippi Waterway Association has always stressed the multiple use aspect of the Mississsippi River system. This system is used not only by commerical and recreational craft, but also by municipalities for hydro-electric power and water supplies. The lock and dam system that was installed by the federal government for navigation purposes created one of the finest wildlife and recreational areas in the Midwest. It is also a major waterfowl breeding area and flyway.

Because of the many uses to which the Mississippi River system is subject, many problems are created for each type of user.

Some of the problems that the commerical navigation industry faces are as follows:

Boating Safety: When we use the term boating safety, we mean that safe co-existence of commerical craft and recreational vessels on the same body of water. The number of commerical craft will be increasing at only one to two percent per year over the next decade. The number of pleasure craft is increasing at a very rapid pace. In 1988 over 65% of the river lockings in the upper ten locks were for recreational craft. Many operators of pleasure craft are not experienced. They are not aware of the dangers involved on the river and around towboats and barges. A massive educational program is necessary in order to avert the many tragic accidents that will otherwise happen.

Urban Riverfront Development: The barge and towing industry need areas close to the cargo handling terminals to fleet (park) barges in order to have an economically efficient operation. There is only so much riverfront available. As urban riverfronts are developed for various purposes by the cities, the commiercial towing industry tends to be shunted aside.

The commerical navigation industry has an economic impact of 7.1 billion dollars on the upper five midwest states and provides approximately 55,000 jobs. The twelve river grain terminals in Minnesota provide 7% of the total national exports. The commercial navigation industry must be allowed its use of the river system for the economic well-being of the Upper Midwest. Water transportation also helps to keep the other modes of transportation competitive.

Environmental and Economic Issues: Environmental quality must be maintained as more and more people use the river system for various purposes. To develop new cargo handling terminals, many new and expensive changes are necessary to meet land and environmental needs. But, economic expansion can be accomplished in an environmentally safe manner. It will make expansion more expensive in the future.

Federal/State Taxes on Commerical Waterway Industry: All bodies of government are looking for ways to balance their budgets. As an industry, we hope our federal and state governments do not price our agricultural and other products out of the international marketplace by their propensity for taxes.

Maintenance of the Navigation System: Because of the multiple use aspects of the Mississippi River system and its economic impact on the Upper Midwest, the Federal Government should make certain that the funds are available to maintain the bridges across the river, the lock and dam system and the proper channel depth. These funds must be made available to assure a healthy economic climate for future generations.

In closing I would like to comment on the Mississippi River Coordinating Commission that was sponsored by Senator Durenberger and Congressman Vento. This Commission should go a long way in properly coordinating the various users of that area of the river system with which it is concerned. It is far-sighted action such as this that will bring sense and reason to the many governmental bodies and users involved in this priceless asset, the Mississippi River System.

FUNDING LOCAL ROADS:
A NATIONAL TRANSPORTATION PRIORITY
(Preliminary Draft)

Commissioned for the
Committee on Priority Roads
by the
National Association of Towns and Townships

Prepared by
Paulette Hansen

July 1990

CHAPTER 1

INTRODUCTION

The nation's delivery system for goods and services includes a vast network of roads and bridges throughout the United States. It extends from coast to coast and border to border, reaching into metropolitan and small rural areas alike, carrying out the business of business by transporting raw materials to processors, components to manufacturers, finished goods to distributors and retailers, and merchandise to consumers.

This same network provides the conduit for essential services among towns, counties, and cities and across state lines. It reaches out to the entire nation, and extends beyond our currently designated Interstate Highway System. It does not leap across the vast distances between large municipalities, but rather it is integrated into the life of each community in the United States.

While the economic stability of the nation depends on this network, responsibility for maintaining the vast majority of its mileage rests with local governments. **More than 70 percent of the total road mileage and more than 50 percent of all inventoried bridges in the United States fall under local government control. Virtually all of these roads, however, are ineligible for any class of federal road funds.** Yet this system -- large portions of which are obsolete -- is forced to carry today's heavier truck loads, larger vehicles, and increased traffic volume. While truck vehicle miles of travel (VMT) on rural roads are almost double urban VMT, paved rural roads are breaking up and gravel roads are going back to mud. Truly, these connections are breaking down and time is running out to repair them.

The condition of these vital links affects the "bottom line" for industry and consumers alike. Deterioration of our local road system has reduced vehicle life, increased travel time, raised operating costs and created many safety hazards. Detours around 114 Pennsylvania bridges with structural problems, for example, cost $230 million per year, according to the Pennsylvania Department of Transportation.

This deterioration is an issue of national concern. Local roads and bridges are not just important to rural areas or to agriculture. They are also vital to the nation's manufacturing, mining, construction, forestry, trucking, and tourism industries; to postal and delivery services; to motor carriers and utility companies; and to wholesale distributors and retail outlets. They are essentially the only mechanism left for inter-city travel for non-urban areas. They provide delivery systems for health, education and essential services.

Federal recognition that local roads and bridges are integral components of the nation's transportation system is sadly overdue. **The federal government must recognize that alleviation of these conditions is a national responsibility**. These roads and bridges should receive a share of federal support consistent with their importance to the national economy.

National road and bridge conditions will be examined by the U.S. Congress in 1991, as it undertakes to reauthorize the federal highway and transit programs, which lapse on September 30, 1991. **The Committee on Priority Roads (CPR) urges Congress and the Administration to adopt a new federal policy initiative that incorporates commercially important local roads as an integral element of a future highway funding strategy**. Such prioritized funding will affect commerce on a national scale, enhancing inter-city transit and trans-continental delivery systems as well as improving farm to market roads, stimulating rural transit, providing an infusion of economic development enterprises, promoting new road links to Interstate highways, and improving safety on non-urban road systems.

This report highlights the importance of local roads and bridges to the nation's economy. It also outlines several policy proposals for consideration by Congress and the Administration as part of a new comprehensive national transportation policy.

CHAPTER 2

OVERVIEW OF THE FEDERAL AID HIGHWAY PROGRAM

Federal aid for highways began in the late 1800s, although no uniform assistance was provided to all states until 1916.

At that time, under the "Rural Post Act", Congress gave states a new role in transportation policy, calling upon them to supervise the improvement and development of a connecting road network. States were required to have a highway agency and to designate which roads would be eligible for federal grants.

Despite improvements, unfortunately all of the desired results were not obtained. Roads were selected, but state legislatures simply gave the federal money to counties without an overall strategy to connect county roads. Travel remained difficult because many road segments were not connected, paved, or built for heavy loads.

The lack of "connectivity" of the nation's road system, along with problems encountered in mobilizing troops for World War I and the over reliance of the nation on railroads, become key issues in the 1920s. Through combined lobbying efforts of the federal road commissioner and business leaders, Congress agreed that the highest federal spending priority should be to build a national system of highways instead of improving local roads.

As a result of this policy shift, the nation's road network grew from three million miles of roads, built mostly by counties, towns, and townships, to today's 3.9 million mile system. Several key concepts embodied in the 1916 act and another passed five years later remain in force today. They established the basic concept of a shared government responsibility for road financing that continues in use today. They also gave birth to:

-- State and local ownership of and responsibility for planning, designing, constructing, and maintaining roads;

-- Apportionment of funds based on legislated formulas with specified factors (e.g., land area, population, and mileage); and

-- Vesting of authority in state highway departments to select projects for federal aid subject to federal approval of plans, specifications and cost estimates.

Jurisdiction over the bulk of roads, however, still resides with 39,000 general purpose governments. (See Table 1 below.) States own and

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operate principle roads and have major authority over spending federal grants. The federal government controls only 4.8 percent of this mileage with most of those roads located in national parks and forests and on American Indian reservations.

TABLE 1

PUBLIC ROAD AND STREET MILEAGE
BY JURISDICTION

Government	Rural	Urban	Total Number	Total Percent
Federal*	183,363	973	184,336	4.8%
State	704,151	96,008	800,159	20.7%
County	1,583,897	89,824	1,673,721	43.2%
Township	441,927	50,214	492,141	12.7%
Other **	218,331	502,455	720,786	18.6%
Total	3,131,669	739,474	3,871,143	100%

*Includes mileage on federal parks, forests, and reservations.
**Not identified by administrative authority, although primarily municipalities.

Source: United States Department of Transportation, Federal Highway Administration. Highway Statistics 1988. Washington, D.C.: United States Government Printing Office, 1989.

Our national transportation network now consists of the Interstate, primary, secondary, urban, and local roads and bridge systems. A brief description of the history and status of these integral components follows.

The Primary System

A key development in national transportation policy occurred in 1921, as federal aid was restricted to a system of principle highways.

That year, each state was required to designate a highway system consisting of not more than seven percent of the roads in the state, on which all federal funds would be spent. The law stated that three-sevenths of the system would be "a connected system of highways, interstate in character. Up to 60 percent of the federal funds could be used on this portion of the system, and the other mileage was

to connect or correlate therewith and be known as secondary or intercounty highways." According to the Federal Highway Administration (FHWA), the roads selected then approximate today's existing federal aid primary system, which makes up approximately 9.3 percent of the nation's current road mileage.

The seven percent restriction was eliminated, effective in 1976. Currently, primary road funds are apportioned to the states using one of two formulas, the first based upon a state's area, rural population, mileage of rural delivery and intercity mail routes, and urban population. The second formula uses only rural and urban population as factors. At a minimum, however, each state receives one-half percent of the available funds. Project costs are split on a 75/25 basis between the federal and state governments.

At the request of the state highway agency, however, a maximum of 50 percent of primary road funds may be transferred to secondary and/or urban roads or vice versa, as long as the transfer does not increase the original figures by more than 50 percent.

Interstate System

Planning for the Interstate system originated with a 1938 study to expand the primary road system to link together all cities of 50,000 or more in population. Federal policymakers also sought to serve the national defense and to connect the United States with important international routes through design of this system. A maximum interstate network of 42,500 miles was established, therefore, although authority was granted to add other federal aid primary routes to the network if they were logical additions or connections and they met all standards for the system.

Despite its establishment in 1944 by the "Federal Aid Highway Act of 1944," the Interstate Highway System received only modest federal funding for the next 12 years. With passage of the "Federal Aid Highway Act of 1956," and the "Highway Revenue Act of 1956," however, Congress reversed that trend. It agreed that the federal government would pay 90 percent of construction costs, instead of the standard 50 percent, and that it would dedicate the motor fuels tax to this purpose. A slightly higher payment was allowed in states with substantial public lands.

Dedication of highway user fees to road programs in 1956 and an increased federal share of construction expenses are viewed as major crossroads in federal transportation policy because they encouraged state and local governments to adopt the national goal of constructing the Interstate Highway System. The success of this approach is obvious. Although eighty percent of the Interstate's miles required new construction, by 1966, 95 percent of the Interstate System was either completed or under construction. The system is now 99 percent

complete at a total cost estimated at $124.9 billion. Of that amount, the federal government contributed $110.0 billion. FHWA estimates that another $4 billion remains to be spent for full completion of the system, due to projects outstanding in California, Massachusetts, and Washington.

Since the program's inception, Congress amended the Interstate program twice to encourage state construction. In 1973, states were allowed to substitute other highway or transit projects for uncompleted Interstate routes not essential for a national system. As a result of this policy change, states dropped 343 Interstate miles and transferred $9.8 billion to other projects.

Of the funds available for substitute highway construction under this program, 25 percent is reserved for discretionary projects. The remaining 75 percent is allocated on the basis of cost estimates for each project. A maximum 85 percent federal contribution has been set. Substitute transit projects are financed through the general treasury, not the Highway Trust Fund, and monies are distributed on both a statutory and discretionary basis, with the federal government sharing 50 percent of the costs and states and local governments providing the remainder.

The second amendment guarantees each state at least one-half percent of the annual construction dollars available for Interstate construction. This payment is made when a state has completed its Interstate projects or the cost of doing so falls below the minimum payment level. The provision, in effect, gives replacement funds to the states for projects that were postponed while they concentrated their capital construction programs on Interstate completion. For 1987-1991, the annual minimum payment level is set at $13.8 million per year.

Interstate highways are a sub-system of the primary system, but are usually listed separately in federal data because they represent a major construction program. They constitute approximately 1.2 percent of national road mileage.

Secondary Roads

From its inception, the federal aid system expanded over time to provide grants to improve connections between primary and local roads, to link cities, and to develop regional and national commerce.

Local governments received an infusion of federal grants for road construction of this type during the Great Depression. Initially, these grants were viewed as public works projects for hiring unemployed workers, but the new and improved farm-to-market roads funded by these grants also promoted commerce, especially in remote rural areas.

Dissatisfaction with the financing scheme resulted in a demand by local governments for a larger share of highway funds and for a federal program channeling money to important local roads. A new secondary road network, consisting of rural major collectors off the federal aid system, therefore, developed. After initial funding in fiscal year 1938, federal support for secondary roads was provided on a permanent basis in 1944.

Major collector roads serve intracounty travel rather than statewide or interstate travel. Of the 436,267 miles of major collector roads, all but 36,186 miles have been designated as part of the federal secondary road network. Most secondary roads are paved two-lane highways with only 12 percent, or 52,352 miles, being unpaved. These roads represent 11.3 percent of all road miles. In 1988, they carried 9.1 percent of the nation's two trillion miles of traffic. Secondary road jurisdiction is almost evenly split between states and county governments with towns or townships administering only 6,045 miles. (See Table 2 below)

TABLE 2

JURISDICTION OF LOCAL RURAL MILEAGE
BY FUNCTIONAL CLASSIFICATION

	Major Collectors		Minor Collectors		Local Roads*	
	Miles	%	Miles	%	Miles	%
State	208,911	47.9%	69,873	23.8%	161,111	7.5%
County	211,945	48.6%	190,334	64.7%	1,180,735	55.2%
Townships	6,045	1.4%	18,873	6.4%	416,677	19.5%
Other	5,200	1.2%	5,127	1.7%	207,915	9.7%
Federal	4,166	1.0%	9,865	3.4%	167,703	7.8%
Total	436,267	100.0%	294,072	100.0%	2,139,793	100.0%

*Incomplete local functional system data submitted by Alaska. As a result, the local mileage column contains the proper total, but the totals for the stratifications exclude Alaska.

Source: United States Department of Transportation, Federal Highway Administration. Highway Statistics 1988. Washington, D.C.: United States Government Printing Office, 1989.

Nearly 80 percent of the paved secondary roads were reported to be in fair or good condition in 1988, however, no condition rating is available for the 52,352 miles of gravel roads. Between 1987 and 2005, FHWA estimates that $86.1 - $90.1 billion should be spent on all secondary roads to meet full travel and service demands. (See Appendix A).

Funding allocations for the secondary system are based upon formulas similar to those used for the primary road program, although urban population is not a factor. As with other programs, costs are shared on a 75/25 percent basis and a minimum payment level is set by law.

Urban Roads

In 1944, urban extensions of the primary system also became eligible for federal grants. Ten years later, urban segments of secondary roads also began receiving federal support. Urban roads, which constitute two percent of our nation's total mileage, became a separate funding category in 1973.

This system exists in each urbanized area, as identified by the U.S. Census Bureau, and in areas designated by state highway departments. It is designed to serve major activity areas and high traffic volume routes and consists of state designated arterial routes and collectors not on the primary system.

For this program, funds are distributed on the basis of the ratio of the state's urban population to that of the nation's urban population, with cost sharing again on a 75/25 percent basis between the federal and state governments and a minimum allocation provided to each state. Transfer authority, as discussed above, also exists.

Rural and Local Roads

While policymakers developed the primary and Interstate highway systems, federal and state efforts were also underway to form a key local road system for rural areas under 5,000 in population. Principle components of this system include minor rural collectors and local roads. Table 2 above shows government jurisdiction over these roads.

Minor rural collectors and local roads are virtually ineligible for federal-aid but they have an important role in collecting traffic for the secondary road system. (See Table 3.) The minor collectors and local comprise 76.2 percent of total national mileage. According to 1988 FHWA statistics, 34.6 percent of rural collectors (i.e.,101,688 of the 294,072 miles) remains unpaved. Of the paved mileage, only 52.2 percent is in fair or good condition.

TABLE 3

ELIGIBILITY OF RURAL AND URBAN ROAD MILEAGE
FOR FEDERAL FUNDS

	All Roads		Eligible		Ineligible
	Rural	Urban	Rural	Urban	Urban/Rural
Interstate	33,303	11,326	33,303	11,326	0
Expressways	0	7,555	0	7,154	401
Prin. Arterials	80,778	50,955	80,068	50,132	1,533
Minor Arterials	147,456	74,928	145,656	67,884	8,844
Major Collectors	436,267	0	400,081	0	36,186
Minor Collectors	294,072	0	0	0	294,072
Urban	0	77,570	0	55,210	22,360
Local Roads	2,139,793	517,140	0	0	2,656,933
Total	3,131,669	739,474	659,108	191,706	3,020,329

Source: United States Department of Transportation, Federal Highway Administration. Highway Statistics 1988. Washington, D.C.: United States Government Printing Office, 1989.

Jurisdiction over minor rural collectors falls predominantly with counties. They maintain 64.7 percent compared to the state's share of 23.8 percent. Towns or townships manage 6.4 percent of the mileage. FHWA estimates that between $51 - $54.5 billion should be spent through the year 2005 on rural minor collectors.

Backing up the collector roads is 2,139,793 miles of local rural roads. Direct state control is limited to 161,111 miles with the remainder primarily divided among counties, towns, townships, and municipalities. **In 1989, FHWA reported to Congress that at least 30 percent of total national road needs are on the local road network and that over one half of the local roads were in very poor to fair condition. FHWA estimates the cost to upgrade these roads at $39.8 billion.**

Bridges

The federal highway program has a special category for bridges both on and off the federal aid highway system. FHWA established a National Bridge Inventory (NBI) to track the condition of bridges over 20 feet in length.

Inventoried rural bridges, both on and off the federal aid road system, are eligible for federal money. Each state receives a minimum one-fourth percent of all bridge funds available. No state, however, may receive more than 10 percent of the total annual appropriation for the program. Federal grants for deficient NBI bridges are based on their repair or replacement cost. Expenses are shared on an 80/20 percent basis between the federal and state governments.

Federal law requires states to spend between 15 - 35 percent of their apportionment on bridges located off the federal aid highway system. Between October 1979 and June 1988, states on average only spent 20.5 percent, or $2.12 billion, on off-system bridges.

Eighty-one percent of all inventoried bridges are in rural areas with 41 percent located on federal aid highways. About one-half of all rural bridges were built before 1957, with 29.4 percent existing before 1940. Appendix B shows rural bridges, rural bridges off the federal aid system, and the percentage of deficient bridges by state.

As shown in Table 4, more than 56 percent of the nation's rural NBI bridges are on roads under local jurisdiction. State jurisdiction over rural bridges is concentrated in a few states with Alaska, Arizona, Delaware, Nevada, New Mexico, North and South Carolina, Virginia, and West Virginia administering more than 75 percent within their state. The average state maintains between 20 - 30 percent of all bridges.

TABLE 4

OWNERSHIP OF BRIDGES BY JURISDICTION

	Local*	County	State	Federal	Other	Total
Rural						
Number	27,532	236,414	199,663	1,885	2,601	468,095
Percent	5.9%	50.5%	42.7%	0.4%	0.5%	100.0%
National						
Number	58,248	247,442	264,513	1,968	5,799	577,970**
Percent	10.0%	42.8%	45.8%	0.3%	1.0%	100.0%

*Includes incorporated cities, towns, townships and other municipalities.
**The number of total bridges will differ because of missing values.

Source: United States Department of Transportation, Federal Highway Administration. National Bridge Inventory, as of 12-31-88.

Limited data is available on the condition of bridges less than 20 feet long and bridge spending outside the federal program. FHWA estimates that state and local governments are spending between $0.5 - 1 billion per year on 1,500 - 2,500 bridges.

Funding Allocations

Americans presently pay a nine cent per gallon federal motor fuels tax. Eight cents of this money and the proceeds of selected other excise taxes flow into the Highway Trust Fund to finance highway programs. The remaining one cent, effective in 1983, is dedicated to the Mass Transit Trust Fund to pay for mass transit projects across the nation. During fiscal year 1988, approximately $15.3 billion was raised in this manner for transportation programs.

In addition, Congress set aside special funds in 1976 for resurfacing, restoration, and rehabilitation (the 3R program) on the Interstate, primary, secondary, urban, and bridge systems. Later, the federal government expanded that program to include reconstruction, thereby creating the 4R program. Forty percent of all federal funds must be used for this program.

All money goes directly to state governments with the exception of the urban program, as cities of more than 200,000 population receive a direct payment. Smaller cities share in urban funds through a state

allocation based on total urban population although a minimum payment is guaranteed.

In 1987, Congress enacted a $70.9 billion five year highway program for federally aided roads, bridges, and safety programs, as follows:

Program	Spending (billions)
Interstate Construction	$3.1
Interstate Substitute	$0.7
Interstate Repair	$2.8
Primary System	$2.4
Secondary Roads	$0.6
Urban Roads	$0.8
Bridges	$1.6
Other	$2.0
TOTAL	$14.0

CHAPTER 3

ROADS ARE A SHARED RESPONSIBILITY AMONG ALL GOVERNMENTS

Federal grants are limited to capital improvements such as construction, reconstruction, and right-of-way acquisition. State and local governments, therefore, are responsible for all maintenance costs and for covering the construction shortfall in federal grants available for the designated federal aid system.

Nationally, counties, towns, townships, and municipalities are responsible for more than 70 percent of the nation's highway mileage. Counties have significant road responsibilities in 38 states and towns or townships have substantial responsibilities in 16 states.

Where Does The Money Come From?

Historically, state and federal governments have relied on road related taxes and user fees (e.g., motor fuels taxes) to finance road programs. In 1988, these taxes accounted for almost 80 percent of the combined federal and state highway revenues and only nine percent of local receipts. On a national basis, user fees provided 60 cents of every dollar spent on roads. (See Table 5.)

All state governments except those of Alaska and West Virginia share highway user taxes or other revenue with local governments. During 1987, 34 percent of the county, town and township and 17 percent of municipal receipts are derived from state shared revenues. In 1988, states transferred $4.1 billion to counties, towns, and townships and $2.7 billion to cities for local roads. An additional $1 billion and $0.8 billion of direct expenditures were made on behalf of these two categories of local governments as well

Local governments supplemented intergovernmental transfers and user fees with $13.7 billion of their own revenue, raised mostly through property, sales, and income taxes. Nationally, local governments receive only 10 percent of all available federal aid, but pay for 22 percent of all capital improvement expenses and 60 percent of maintenance costs for the entire country.

TABLE 5

ESTIMATED 1988 TOTAL HIGHWAY RECEIPTS
(millions of dollars)

Source	Federal	State	County/ Township	Munic.	Total $	Total %
Fuel/Motor Vehicle Tax	$13,168	$25,034	$420	$375	$38,997	56.5%
Tolls	--	$2,344	$57	$190	$2,591	3.8%
Property Tax	--	--	$2,342	$1,950	$4,292	6.2%
Genl. Fund	$968	$1,261	$2,475	$6,650	$11,354	16.5%
Other Taxes/ Fees	$73	$1,506	$550	$383	$2,512	3.6%
Invest. Income	$1,265	$1,774	$700	$1,108	$4,847	7.0%
Bond Proceeds	--	$2,384	$550	$1,475	$4,409	6.4%
Total	$15,474	$34,303	$7,094	$12,131	$69,002	100%

*Includes some estimates.

Source: United States Department of Transportation, Federal Highway Administration. Highway Statistics 1988. Washington, D.C.: United States Government Printing Office, 1989.

The former federal General Revenue Sharing (GRS) program temporarily increased road funding for many local governments during its existence. FHWA estimates that in 1986 local governments spent $575 million of their revenue sharing funds on roads. Towns and townships committed 84 percent of their revenue sharing funds for roads and bridge repair.

Most states share revenues in recognition of the fact that local government powers are limited to those granted by the state. Local financing in large measure, therefore, is controlled at the state level. An FHWA review of a recent survey of 3,000 counties by Barbara Greene of Central Michigan University found that, "roads was the third most pressing problem area for counties....Moreover, over 48 percent of all counties use more than 40 percent of their revenues for mandated services. Since this money is channeled to specifically mandated services, the ability of counties to channel funds to meet their road needs is limited."

How Responsibilities For Local Roads Are Divided

State comparisons show that there are four basic patterns of managing local roads. First is the approach taken by Alaska, Delaware, North Carolina, Virginia, and West Virginia, in which all local roads are administered by the state. The second arrangement, used mostly by southeastern and western states, is to have counties primarily responsible for rural local roads.

The third variation is a dual partnership between counties and townships found predominantly in the Mid-Atlantic states and the Midwest. In New England, for example, towns assume the road responsibilities normally given elsewhere to counties. Finally, Idaho has separate road districts apart from county governments.

CHAPTER 4

STRESSES ON LOCAL AND RURAL TRANSPORTATION SERVICES

With three-fourths of all Americans living in urbanized areas, few individuals realize that federal deregulation of the rail, airline, trucking, and intercity bus industries increased reliance on local roads and made significant changes in the supply and distribution of goods and services. Deregulation of these transportation industries and the resultant growth in truck and automobile travel has caused deteriorated roads and bridges.

At a time of increasing strain upon the road system, rural residents and businesses have few options to divert trafffic, as most rural areas have poor access to the federal aid highway system. Although rural residents pay on average $9.16 more per capita to the Federal Highway Trust Fund, the Interstate System serves only 42 percent of all counties. The Economic Research Service (ERS) of the United States Department of Agriculture (USDA) reports that three-fourths of the nation's 3,142 counties have a population of less than 50,000. Only 31 percent of these "nonmetropolitan counties", however, have access to the Interstate System while 77 percent of the metropolitan areas have an Interstate highway.

This chapter briefly reviews these trends and conditions and analyzes their impact upon local roads.

Growth in Large Trucks

Over the years, allowable vehicle sizes and weights in trucks have increased. FHWA reports that "over half of the states established maximum practical combination weights at 40,000 pounds or less in 1927. Nearly all states had maximum practical combination weights somewhere between 40,000 - 70,000 pounds by 1949, and 44 states raised their maximum practical combination weights to the 70,000 - 75,000 pound range by 1964." In 1982, federal legislation effectively set 80,000 pounds -- subject to the bridge formula -- as the maximum for the 181,000 miles of Interstate highways and primary roads.

Economic reasons for using larger trucks grew in 1980 when the federal government deregulated the railroad industry. North Dakota, for instance, lost 700 miles of rail track during the past decade and anticipates another reduction of 1,400 miles.

This shift towards large vehicles has an important implication for the nation's road network, commercial productivity, and operating costs because most local roads and bridges, which generate traffic for the

national system, were built prior to World War II and have not been improved to handle this increased load.

In rural areas, most roads are carrying 40 ton trucks instead of the 15 ton vehicles that they were built to accommodate. According to the Minnesota State Agriculture Extension Service, in 1986 alone 1.5 million truck loads of forest and farm products were hauled each year over such rural roads with one-half of the loads traveling out-of-state. The impact can only begin to be appreciated until one realizes that federal cost allocation studies show that road damage by one heavy truck is equal to the damage caused by 9,300 cars.

Role of Trucks in the Economy

Commercial trucks (with six or more tires) account for only five percent of all registered vehicles and nine percent of the two trillion vehicle miles of travel. FHWA estimates, however, that overall truck travel is expected to at least double by 2020, increasing by an average of 3.4 percent annually.

Highways now carry 75 percent of the value of all goods and services produced by the U.S. economy. More than 20 percent of all ton miles of freight are hauled over roads, although one-third of the nation's freight bill is spent on highways. Most of the truck traffic is intercity, with one-third on local roads.

Industry's reliance on highways will increase 26 percent over the next 10 years, according to the U.S. Department of Commerce's special report, "Effects of Structural Changes in the U.S. Economy on the Use of Public Works." An example of a structural change which will require a more reliable highway system for increased efficiency and profits is the trend towards just-in-time (JIT) delivery. JIT, which has reduced national warehouse needs by 50 percent, is used by Chrysler's Detroit assembly plant, which produces approximately 900 cars per day. The plant never has more than one hour's supply of car seats on hand. Seats are ordered four hours in advance of need from a supplier 60 miles away.

Rural Truck Traffic

The cost for businesses operating in rural areas is high due to travel distances and poor road conditions. For example, Mountain Bell Company has 471 vehicles which traveled 4.7 million miles on the Idaho road system in the first ten months of 1987 alone. In 1988, Minnesota Mining and Manufacturing Company (3M) spent $216 million on transportation costs for shipments between 107 locations by truck, small parcel services, and rail. Its over-the-road travel is one million miles per month with the average trip being 562 miles. If the roads used are typical, increased annual operating costs, exclusive of labor, repair parts, and costs

attributed to delayed services, could have cost Mountain Bell $100,000 and 3M $255,319.

FHWA research on the growth of truck travel shows that during 1966 - 1985 urban travel held steady at 4 - 6 percent growth, while the rural share grew from 7 - 11 percent. Table 6 shows FHWA's preliminary forecast which predicts that truck travel in rural areas by 2020 will be 60 percent higher than that of urban travel. FHWA estimates that in 1990 rural collectors and other local roads will carry 24.8 percent of all rural truck traffic. By 2020, these roads will carry 56.3 billion miles of truck traffic each year.

TABLE 6

PRELIMINARY FORECAST OF VEHICLE MILES OF TRAVEL
FOR TRUCKS WITH SIX OR MORE TIRES
BY FUNCTIONAL CLASS OF HIGHWAYS
YEARS 1990 - 2020
(millions of miles)

	Rural		Urban	
	1990	2020	1990	2020
Interstate	38,022	91,364	22,273	53,153
Other Freeways	–	–	5,085	12,229
Other Prin. Arterials	20,043	48,195	15,028	36,142
Minor Arterial	13,716	32,661	8,590	20,740
Major Collector	13,454	32,256	3,964	9,456
Minor Collector	3,835	9,004	–	00
Local	6,436	15,015	4,656	11,013
Total	95,506	228,495	59,596	142,733

Source: United States Department of Transportation, Federal Highway Administration. The Future National Highway Program 1991 and Beyond: Working Paper 3, "Trends and Forecasts of Highway Freight Travel. April, 1988, p. 44.

Cost of Poor Roads and Bridges

Failure to improve roads will dramatically raise vehicle operating costs for the average driver, who now is contributing 3.2 cents per mile to governments for road needs. FHWA cost benefit analysis shows that for

every dollar spent on highways, the average driver saves $3 - $4 in operating costs. For commercial operators, the figures are equally impressive. Good roads alone can reduce the cost of operating a typical large combination truck by 6.3 cents per mile and result in a $100 billion national savings per year.

Future travel and road conditions are based on 100,000 samples of roadways by states and FHWA. Utilizing these samples, the American Association of State Highway and Transportation Officials (AASHTO) estimated that the average 1986 road cost for urban drivers at 22.8 cents per mile compared with 24.4 cents in rural areas. Rural costs are higher due to surface conditions, with poor roads adding as much as one-third to the annual cost of driving a small passenger car.

By 2020, the cost is expected to increase 18 percent in rural areas and 28 percent for urban travellers to a total of 28.9 cents and 29.20 cents, respectively. The extra annual cost of operating a vehicle will be $58 billion on rural roads and $97 billion for urban locations. If road funding is not increased, by 2020 the average household, which now travels 11,000 miles per year, will be paying $1,000 per year for road related expenditures instead of $400 today. Between 1986 and 2020, the accumulated cost for operating vehicles is estimated at $1 trillion in rural areas compared to $1.7 trillion in urban areas.

The motorist may also expect substantial lost time due to congestion and delays caused by the quality of the road system and repairs. The Transportation Alternatives Group (TAG) reports that "based on current trends in surface travel growth compared to the recent rate of addition of new facilities and services--the total national hours of delay will increase 7 - 9 percent per year, a rate three times the growth of travel itself." By the year 2005, the nation could be wasting 6.91 billion hours and 7.32 billion gallons of gas each year.

Based on a value of $8.00 per hour and a projected increase in travel time of 13 percent in rural and 26 percent in urban areas, AASHTO estimates the increased delay and congestion cost between 1986 - 2020 at $2 trillion. That is equal to the loss of labor hours of about 4 million workers per year.

Another structural change in the economy affecting transportation is the gradual shift of the total Gross National Product (GNP) from industries that produce goods to those that deliver services, estimated at 7.5 percent between 1972-1995. The U.S. Commerce Department projects that by 1995 only about 39 percent of all business activity will be directed at producing goods with the remaining 61 percent related to service delivery. With 11 percent of our work force in travel status at any given time, good roads and reduced travel delays are increasingly important to national productivity.

Besides driving conditions, load restrictions placed on roads and bridges affect commerce. Nebraska farmers paid $300,000 more to transport their sugar beets to Western Sugar because they lacked access to roads without weight limitations. Restrictions on load size are often placed on heavy motor vehicles during early spring thaw because roadbeds become soft and can be damaged. These "weight posted" roads require rerouting or reduction of the load size until the combination of the product weight and the vehicle falls within the legal limit. If local governments fail to post or enforce weight restrictions where necessary, FHWA withholds grants from the jurisdiction until corrective action is taken.

According to the trucking industry, rerouting trucks to avoid poor road and bridge conditions can increase the time of a run by anywhere from 10 to 100 percent. Federal statistics show that 575,000 highway bridges, or 42 percent of the country's bridges over 20 feet in length, are either restricted to light traffic or closed.

Rebuild America, a national public and private sector infrastructure coalition, estimated the following cost of restricting the allowable load on a bridge that carried 2,000 cars and 200 trucks per day. On a five mile detour, "with running costs at 50 cents per mile, the 200 trucks per day incur additional total operating costs of $182,500 per year. If the bridge is closed and the 2,000 autos per day must also detour the five miles, the total operating costs at 20 cents per mile are $730,000 per year for the autos. The combined cost for autos and trucks would be $912,500 per year."

Deregulation of Airline Service Also Affects Local and Rural Transportation

State governments quickly realized that rail deregulation affected their entire transportation network. For instance, Idaho repaired 71 miles of track to keep 120 truckloads per day of logs, lumber, plywood, grain, and other commodities off the road system.

The impact of deregulation on local roads is equally noticeable with regard to airline travel. Most residents now have to drive further to benefit from reduced airline fares and to use the hub-and-spoke routing system developed between regional carriers. A comparison between travel time by car and air shows that in most states it is faster to drive between two intrastate points than to fly. Travel between smaller airports located in different states may be time consuming. As a result, more highway travel takes place, increasing the stress upon and importance of local roads.

CHAPTER 5

GOVERNMENTAL APPROACHES TO RURAL TRANSPORTATION PROBLEMS

Intergovernmental cooperation is necessary to resolve the major local and rural transportation problems discussed above which directly affect productivity, commerce, and the quality of life.

Since the 1980s, federal interest in local roads has been limited to training and technical assistance for local officials through the Rural Technical Assistance Program (RTAP). Most services are provided by Technology Transfer (T2) Centers that now serve 45 states. These Centers are funded on a 50-50 federal/state matching basis with non-federal money provided from state appropriations, local users, and universities. Federal spending on RTAP is nearly $4 million per year.

In the absence of a major federal role in supporting local roads, a number of states have stepped forward to help address these problems. States are working more closely with local governments to identify needed road and bridge improvements and to develop overall strategies to finance the state's entire transportation system. The following discusses a few of the approaches used.

Pennsylvania's Priority Commercial and Agri-Access Networks

A notable example of state/local/commercial cooperation is the Pennsylvania Department of Transportation's efforts to identify a two tier road system that serves essential commercial traffic, industrial development, and agricultural and forestry businesses.

First, the state developed a Priority Commercial Network (PCN) in 1982, consisting of 12,000 miles of the state's most important commercial routes. The network resembled the primary system because businesses often locate near paved roads with direct access to the Interstate. Once the network was identified, a thorough review of the system was conducted to identify specific highway deficiencies which impeded business and industry. Through the review, the state, for example, found 114 bridges with structural problems that detoured heavy traffic. The state estimated the detours cost $230 million per year.

Pennsylvania's commercial network was complemented by an Agri-Access Network that consists of 8,900 miles of rural roads and the bridges most important to the state's agriculture and forestry industries. This network, a joint project of the Departments of Agriculture and Transportation and the Extension Service, was identified through a task force that included federal, state, and local government officials and representatives of agricultural organizations. The task force linked

government officials and local farm related businesses so the agricultural sector itself had an important role in identifying critical roads and bridges.

Through this review, Pennsylvania discovered nearly 600 bridge obstructions that affected movements of heavy agricultural and lumber loads. Of that number, 312 were weight-restricted. Before the study, only 88 bridge obstructions were known by the state. Most importantly, however, the process gave the state a prioritization capability it previously lacked. Furthermore, it helped evaluate the maintenance needs for roads and identify roads suitable for turnback to local governments.

Other State and Local Initiatives

A number of other state and local governments have completed noteworthy projects designed to assess local road needs.

The Washington State Legislature required a road jurisdiction study and a state-wide strategy through the year 2000 for maintaining and expanding its highways. The study found that over the next 12 years Washington and its general purpose governments required $28.3 - $33.6 billion for road projects with the final dollar amount dependent on the design standards assigned for specific miles. This estimate includes $9.4 and $13.5 billion of identified projects that are on a waiting list.

Minnesota's road spending priorities and intergovernmental planning activities are based on safety. Though the state had the lowest national fatality record for the previous three years, 102,094 highway crashes occurred in 1988, killing 615 and injuring 44,415 people. Although only 30 percent of the 102,094 crashes occurred in rural areas, they accounted for 68.4 percent of the fatal accidents. The higher fatality rate is due to the length of travel time by medical personnel and poor road conditions.

The state's goal is to cut fatality rates 50 percent by the year 2000, and stem the economic loss of nearly $600 million per year resulting from property damage, injuries, and fatalities.

Hazardous locations on state and local roads were identified by more than 2,000 people attending gubernatorial safety forums. Through the forums, 341 state and 53 local roads were identified as hazardous. Safety improvements on local roads and 4,000 non-signalized rail-highway crossing sites hold the key to reaching Minnesota's state goal.

Minnesota will spend $704 million over five years on state-managed highways. Another 400 local projects could be carried out by 1992 if local governments base their spending priorities on identified safety improvements. Safety improvements range from paving

shoulders, applying brighter pavement markings, and increasing sight distances on curving low-visibility roads to adding turn lanes.

Efforts to match road spending priorities with revenues were made by North Dakota's Richland County with technical assistance from the state highway agency. The county's revenues, including its share of the state user fee taxes, only support a $1.4 million annual road program and not the $2.8 million required to maintain all county roads. The final budget and road network plan developed through this process required that some roads be closed or services reduced, however, once public officials explained the selection process, the new system gained acceptance. The state subsequently developed a model program for other local governments.

CHAPTER 6

RECOMMENDATIONS

The National Governors Association's Task Force Report on Transportation Infrastructure, "America in Transition: The International Frontier" ties our international competitiveness to the quality of our transportation services and facilities. It states, "industry has moved to smaller, decentralized, more specialized productions and just-in-time inventory methods. Transportation -- trucks, rail, waterways, and air freight -- is fundamental for making such strategies fully competitive. Small businesses, upon which most of the potential for growth depends, are especially reliant upon efficient, affordable, transportation services."

America's transportation system is at risk and demands a new federal policy initiative. Future federal policies should be based on the ability of state and local governments to finance road improvements necessary for transportation. These policies must recognize regional differences due to changing demographics and economic conditions and encourage intergovernmental planning between urban and rural areas within each state.

Amendments to the Existing Programs

Without good roads and intermodal connections, the nation's ability to attract industries, foster home grown businesses, and increase the standard of living for our citizens will be severely diminished. Legislative amendments to the federal highway programs, therefore, should be evaluated carefully for their impact on predominantly rural areas, as well as on general purpose governments that provide road services.

To address many of the problems plaguing local roads, the Committee on Priority Roads recommends that Congress and the Administration support the following program reforms:

1.) Require states to work with local governments and businesses to identify and improve the rural roads and bridges necessary for commercial traffic and delivery of government services. The Pennsylvania Priority Commercial and Agri-Access Networks, as discussed in the previous chapter, would serve as national models for this collaborative planning effort.

2.) Provide substantial new federal funding to support this planning effort and assist local and state governments in making the improvements necessary to economically important local roads and bridges.

3.) Increase flexibility in federal transportation programs so states may work with local governments in resolving transportation problems occurring on and off the federal aid system. Allow the use of state standards where applicable for local road improvements made under federal grants.

4.) Restore the safer-off system road category that was repealed by the 1987 highway reauthorization legislation.

Under this program, grants were available to all roads and bridges not included on the federal aid system; however, they must have been under the jurisdiction of and maintained by a public authority and be open to public travel. At least 50 percent of the funds must have been used for highway safety improvements. A formal arrangement was required between state governments and local officials for construction and maintenance of projects not directly under state control.

Reinstatement of this program would allow state governments to spend federal money on currently ineligible commercially important roads and allow the state road network to adapt to structural changes in the transportation system caused by changing supply and distribution points. Though all roads would be eligible for funding, federal exposure would be limited through the governmental planning process and by the fact that federal approval is required on an annual basis for all projects financed from the Highway Trust Fund.

5.) Retain a separate bridge category with the requirement that 15 - 35 percent of the money be spent on bridges located off the federal aid highway system.

6.) Evaluate federal policy changes to assess them for their impact on rural and smaller communities, so lawmakers can make a conscious decision on national spending priorities and economic competitiveness issues.

APPENDIX A

FORECAST OF CAPITAL INVESTMENT REQUIREMENTS NEEDED FOR AMERICAN ROADWAYS WITH TWO PERCENT ANNUAL TRAVEL GROWTH 1987-2005 (billions of 1987 dollars)

	Maintain 1985 Overall Condition	Maintain 1985 Performance	Meet Full Needs(c)
Rural			
Interstates	$34.8(a)	$34.8(b)	$34.8
Prin. Arterials	$18.8	$18.8	$42.5
Minor Arterials	$20.5	$20.5	$48.3
Major Collectors	$33.2	$33.2	$86.1
Minor Collectors	$15.1	$15.1	$51.0
Subtotal	$122.4	$122.4	$262.7
Urban			
Interstates	$53.8(a)	$53.8(b)	$53.8
Freeways/Express.	$28.0	$28.0(b)	$28.0
Prin. Arterials	$90.1	$90.1(b)	$89.9
Minor Arterials	$60.7	$60.7	$82.1
Collectors	$28.1	$28.1	$49.0
Subtotal	$260.7	$260.7	$302.8
Totals			
Total Highway	$383.1(a)	$383.1(b)	$565.5
Total Bridge	$92.9	$92.9	$92.9
Total Highway/Bridge	$476.0(a)	$476.0	$658.4

Source: United States Department of Transportation, Federal Highway Administration. Status of the Nation's Highway. Washington, D.C.: United States Government Printing Office, 1989.

FORECAST OF CAPITAL INVESTMENT REQUIREMENTS NEEDED FOR AMERICAN ROADWAYS WITH THREE PERCENT ANNUAL TRAVEL GROWTH 1987-2005 (billions of 1987 dollars)

	Maintain 1985 Overall Condition	Maintain 1985 Performance	Meet Full Needs(c)
Rural			
Interstates	$42.5(a)	$42.5(b)	$42.5
Prin. Arterials	$23.6	$22.8	$51.5
Minor Arterials	$22.9	$22.9	$53.9
Major Collectors	$34.6	$34.6	$90.1
Minor Collectors	$16.1	$16.1	$54.5
Subtotal	$139.7	$138.9	$292.5
Urban			
Interstates	$73.8(a)	$73.8(b)	$73.8
Freeways/Express.	$34.1	$33.8(b)	$33.8
Prin. Arterials	$103.6	$103.5(b)	$103.6
Minor Arterials	$71.3	$71.3	$97.2
Collectors	$31.4	$31.4	$54.7
Subtotal	$314.2	$313.8	$363.1
Totals			
Total Highway	$453.9(a)	$452.7(b)	$655.6
Total Bridge	$92.9	$92.9	$92.9
Total Highway/Bridge	$546.8(a)	$545.6(b)	$748.5

Source: United States Department of Transportation, Federal Highway Administration. Status of the Nation's Highways. Washington, D.C.: United States Government Printing Office, 1989.

Key:

The Federal Highway Administration calculated the level of capital investment needed through the year 2005 based upon the cost to maintain overall conditions existing in 1985, the 1985 level of system performance, and the full cost of adding lane capacity in areas with right-of-way available for road expansion. Local roads data are not shown, however, a 1989 FHWA report to Congress estimated that at least 30 percent of total national road needs are on the local road network.

Furthermore, over one-half of the local roads are in very poor to fair condition. FHWA estimates the cost to upgrade these roads at $39.8 billion.

(a) At this level of investment, overall condition cannot be maintained within the existing right-of-way. A shortfall of between 11,000 - 15,000 lanes miles of new capacity, or their equivalent, would result. Options to address this shortfall include new construction, system operation improvements, toll facilities, peak hour demand management, and

(b) At this level of investment, system performance cannot be maintained on either the urban or rural portion of the Interstate Highway System, the urban freeways and expressways, and the urban principal arterials within the existing right-of-way. A shortfall of between 11,250 - 25,000 lane miles of new capacity, or their equivalent, would be the result. Options to address this shortfall are the same as those listed under

(c) This investment strategy assumes that capacity improvements would be made only where right-of-way to expand is already available. If limited to these conditions, system performance would deteriorate, especially in highly congested urbanized areas.

APPENDIX B

STATUS OF RURAL BRIDGES
(As of December 1988)

	Total Bridges	Rural Bridges #	Rural Bridges %	Off-federal #	Off-federal %	Deficient #	Deficient %
AL	15,534	13,202	85%	7,185	55%	7,201	55%
AK	800	685	86%	184	27%	119	17%
AR	13,014	11,591	89%	6,926	60%	6,010	52%
AZ	5,623	4,534	81%	819	18%	376	8%
CA	22,277	13,074	59%	6,009	46%	4,896	37%
CO	7,428	5,696	77%	3,402	60%	2,365	42%
CT	3,749	1,403	37%	777	55%	877	63%
DE	738	386	52%	225	58%	140	36%
FL	10,188	5,760	57%	2,634	46%	1,697	29%
GA	14,207	11,790	83%	5,825	49%	5,356	45%
HA	1,043	592	57%	253	43%	244	41%
IA	25,841	24,098	93%	18,052	75%	12,188	51%
ID	3,745	3,332	89%	1,927	58%	1,131	34%
IL	25,428	21,166	83%	14,030	66%	6,325	30%
IN	17,517	14,409	82%	9,593	67%	7,354	51%
KS	25,648	23,968	93%	14,356	60%	12,440	52%
KY	12,591	11,630	92%	7,537	65%	7,865	68%
LA	14,141	11,952	85%	7,185	60%	6,144	51%
MA	4,960	2,052	41%	898	44%	946	46%
MD	4,572	2,908	64%	1,577	54%	1,422	49%
ME	2,583	2,194	85%	1,255	57%	711	32%
MI	10,580	7,410	70%	4,092	55%	2,755	37%
MN	13,005	11,127	86%	7,295	66%	3,267	29%
MO	23,682	20,789	88%	13,858	67%	15,107	73%
MS	16,993	15,947	94%	9,046	57%	9,535	60%
MT	4,632	4,356	94%	2,131	49%	2,879	66%
NC	16,155	13,353	83%	9,515	71%	7,849	59%
ND	5,283	5,108	97%	3,475	68%	3,060	60%
NE	15,843	15,144	96%	10,536	70%	8,958	59%
NH	2,572	2,133	83%	1,249	59%	1,103	52%
NJ	6,007	2,184	36%	1,155	53%	890	41%
NM	3,439	2,857	83%	617	22%	649	23%
NV	1,073	759	71%	219	29%	142	19%
NY	17,311	11,427	66%	7,258	64%	8,321	73%
OH	29,180	23,270	80%	15,821	68%	5,268	23%
OK	22,777	20,682	91%	13,881	67%	11,843	57%
OR	6,608	5,622	85%	2,581	46%	1,090	19%
PA	22,541	17,076	76%	10,259	60%	7,550	44%
RI	703	143	20%	73	51%	36	25%
SC	8,886	7,990	90%	4,392	55%	1,672	21%

	Total Bridges	Rural Bridges #	Rural Bridges %	Off-federal #	Off-federal %	Deficient #	Deficient %
SD	6,822	6,532	96%	3,983	61%	3,153	48%
TN	18,535	15,276	83%	9,994	65%	6,415	42%
TX	44,681	32,846	74%	14,179	43%	12,815	39%
UT	2,584	1,784	69%	704	40%	255	14%
VT	2,655	2,501	94%	1,346	54%	1,301	52%
VA	12,729	10,323	81%	5,390	52%	3,971	38%
WA	6,906	5,277	76%	2,669	51%	1,470	29%
WI	12,963	10,589	82%	6,179	58%	4,564	43%
WV	6,440	5,707	89%	3,002	53%	3,868	68%
WY	2,826	2,551	90%	872	34%	680	27%
Total*	576,048	467,185	81%	276,420	59%	216,273	46%

Source: United States Department of Agriculture, Office of Transportation. "Rural Bridges: An Assessment Based Upon the National Bridge Inventory." Washington, D.C., 1989.

*The number of total bridges will differ from USDA base due to missing national values.